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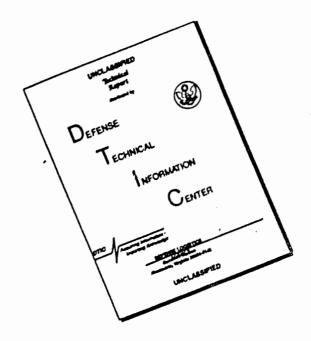## FOR
TRAINING DEVICES

USER'S MANUAL
FOR
COST PROPOSAL
EVALUATION PROGRAM
(CPEP)

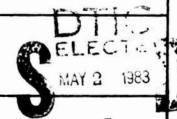83 04 29 015

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User's Manual, Cost Proposal Evaluation Program (CPEP), Request for Proposal (RFP), Work Breakdown Structure (WBS), Training Devices, Estimate, HP-3000, WANG, BASIC, Cost/Hour Evaluation Worksheet, Evaluation Worksheet Legend, Value Worksheet, Cost Proposal Requirements (CPR), Cost Reporting Requirements.

20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The Cost Proposal Evaluation Program (CPEP) is a means to simplify and standardize the methodology for evaluating cost proposals. The User's Manual provides instruction to the cost analyst or evaluation team in the use of the tool. The manual guides the user from a discussion of what data is required (the Cost Proposal Requirements section of an RFP), to a discussion of data preparation after a proposal has been received. The manual continues with step-by-step instructions in the use of the data processing software developed for CPEP. The instructions and the use of the soft-
(CONTINUED ON REVERSE SIDE)

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20. Abstract (cont'd)

ware are both presented in an elementary manner to assist individuals new to cost proposal evaluation. The software provides printouts that are used for comparison to a Government estimate. Costs are presented at various levels of detail, burdened or unburdened, inflated or normalized.

USER'S MANUAL

FOR

COST PROPOSAL EVALUATION PROGRAM (CPEP)

Prepared For:

PROJECT MANAGER TRAINING DEVICES

U.S. ARMY MATERIEL DEVELOPMENT & READINESS COMMAND

ORLANDO, FLORIDA

12 APRIL 1983

Prepared By:

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CHAPTER 1
INTRODUCTION

The purpose of this User's Manual is to help the user understand and apply the detailed operating procedures of the Cost Proposal Evaluation Program (CPEP). The user is not required to be an experienced cost analyst nor a computer programmer.

The CPEP is a software program that automates cost proposal analysis and evaluation activities.

The CPEP has been developed in response to a need expressed by the Project Manager for Training Devices (PM TRADE). The need is to standardize and make expeditious the methodologies used to prepare documented analyses of cost proposals submitted by offerors in response to a Request For Proposal (RFP). The CPEP meets this need by:

Organizing cost proposal data in a standardized manner; and

Providing rapid assessment of rate or value changes; and

Providing outputs which assist the evaluator in cost proposal evaluation efforts.

The CPEP was developed and used effectively in evaluating the cost proposals for the R&D program of the AH-64 CMS. However, the CPEP is useful for any cost proposal evaluation performed by the Government.

The user is reminded that the RFP prescribes the format to present cost proposal data. The prescribed format is based on PM TRADE's generic Work Breakdown Structure (WBS). The RFP requires offerors to extend the WBS to a level of detail that describes clearly the offerors' cost estimating methodology.

The specification or statement of work (SOW), contract line items (CLIN), and requirements for the technical proposal, management proposal, integrated logistics support proposal and the cost proposal are all prepared in accordance with the WBS. The offerors' cost proposal data, organized by WBS elements, state clearly the time period (including out years), labor categories, material, subcontractor and other costs in accordance with cost proposal requirements prescribed by the RFP.

CPEP may be used for a comparison of costs/hours estimated for each of the WBS elements submitted in competing proposals. A code is prepared which correlates the offerors' cost categories to the Cost/Hour Evaluation Worksheet categories (see Appendix B). The offerors' cost proposal data are transferred to the

1

appropriate categories of the Cost/Hour Evaluation Worksheet using the code as a guide. Only one WBS element is recorded on each worksheet. These worksheets are distributed among the cost proposal evaluators to document their individual evaluation of each assigned WBS element. After reviewing the cost proposal, the evaluator prepares the Government cost estimate on the same worksheet. Variances between the Government's cost estimate data and the offeror's data are documented on the worksheet. (Reference page 8.) An analysis and rationale for the Government differences is also prepared. The worksheet data are entered into the computer.

The CPEP is designed to accept worksheet data and perform calculations required for an effective evaluation. The CPEP eliminates the manual calculations done previously by evaluators, reduces the number of evaluators required for the task, and reduces the time required for cost proposal evaluation. By being a single data entry model the possibility of errors is minimized when making modifications. The single data entry feature also permits analysts to perform easily and efficiently "what if" comparisons. Analysts' productivity is increased, as well as the timeliness in which the cost proposal evaluations are conducted.

Reports generated by CPEP are as follows:

a. Rates by category (functional area).

b. WBS element cost by category and rate code.

c. WBS level cost roll ups by category and rate code.

d. Unburdened cost summary by WBS number and category.

e. Summary of cost burdens and overheads by WBS number and category.

f. Total burdened cost summary by WBS number and category.

Categories (or functional areas) contained on the major reports are shown below:

a. Material

b. Subcontract

c. Field support

d. Engineering

e. Other direct/manufacturing

f. Other

The rate codes are subcategories as determined by the evaluation team; e.g., subcategories of material may include raw material and purchased parts.

CHAPTER II
CPEP OPERATING CHARACTERISTICS

The CPEP is designed to run on the Hewlett-Packard (HP) 3000 computer and is written in BASIC. The software contains sufficient remark statements and prompts to aid the analyst in its operation.

The HP 3000 consists of the following hardware:

o	Central Processing Unit (CPU)	256K Bytes Memory
o	Disc Drive (2)	120 Megabytes (each) storage
o	Type Drive	1600 Bytes Per Inch - Nine Track
o	Line Printer	132 Characters; six to eight lines per inch; 400 lines per minute
o	Operator's Console	HP 2645A Systems Console
o	Terminals (5)	HP 2624A

The CPEP is resident on the disc storage and may be called up to one or more of the terminals, as required. The CPEP may be accessed by other computers off-site via telephone modem and tie-in to Science Applications, Inc., Orlando, Florida. The system employs an eight bit word. On the HP-3000, the system operates using virtual storage capabilities in four thousand pages; therefore, total CPU memory is not applicable.

To achieve a Government in-house capability, plans are currently in progress to convert the HP BASIC program code to a BASIC that is fully compatible with another computer system. The conversion will enable the software to function on a WANG Model 2200 MVP or WANG OIS System currently in operation at Naval Training Equipment Center (NTEC) and PM TRADE, respectively.

CHAPTER III
CPEP CAPABILITIES

The CPEP is designed to assist the cost evaluation team analyze single offeror and competing offerors cost proposals. The CPEP concept p mits uniform evaluation of each offeror's cost proposal data. Cost data specifications are set forth in the Cost Proposal Requirements (CPR)[1] section of the RFP. The CPR establish standard cost categories (material, subcontract, labor, other direct charges, etc.). The use of standard cost data formats in proposals facilitates transcribing data and comparative analyses. These cost proposal data are mapped into evaluation worksheets.[2] Consistent contractor cost data may be obtained by using the contract reporting requirements as set forth in Appendix C.

Worksheet data are input to the CPEP through simple data loading instructions. These instructions are provided to the user by "screens" that appear on the HP 3000 terminal.

Data presented on the three worksheets: (1) Cost/Hour Evaluation Worksheet, (2) Evaluation Worksheet Legend and (3) Value Worksheet include;

a.   Material Cost.

b.   Subcontract Item Cost.

c.   Other Direct Charge Cost.

d.   Engineering Hours.

e.   Field Support Hours.

f.   Manufacturing Hours.

g.   Burden Percent.

h.   G&A Percent.

i.   Profit Percent.

j.   Cost of Money Percent.

k.   Hourly Rate Cost.

1 See Appendix A
2 See Appendix B

Data input to the computer may be modified readily. This capability augments the user's ability to evaluate alternatives. Any data value can be varied over a range of possibilities. Similarly, a combination of values may be varied in concert. The cost evaluation team may substitute a complete set of cost data derived from Government cost estimates for comparative analyses. Successive runs may be performed in a matter of minutes.

The CPEP outputs are displayed on hard copy printouts in a uniform format to assist in comparative analysis of the alternatives. Printouts are identified by date and time to provide an audit trail of the cost evaluation process. Multiple copies of printouts may be provided to accommodate simultaneous review by members of the cost evaluation team.

Printouts provided by the CPEP include:

a. Rates by functional area.

b. WBS element cost by functional area and rate code.

c. WBS level cost roll ups by functional area and rate code.

d. Unburdened cost summary by WBS number and functional area.

e. Summary of cost burdens and overheads by WBS number and functional area.

f. Total burdened cost summary by WBS number and functional area.

Results obtained by iterative runs may be used to determine the reasonableness of any part of the offeror's cost proposal. Results may also be used to establish the Government's baseline negotiating position.

Single offeror and competing offeror cost proposals are evaluated in a similar manner. That is, offeror data are entered into the CPEP and results are documented on printouts. Each offeror's proposal position may be tested through variations in the data. The series of runs of: (1) Each offeror's position, (2) alternatives proposed by the cost evaluation team, and (3) the Government's baseline negotiating position are assembled for comparative review. Efficiencies gained by computerized data processing permits rigorous analysis of alternatives, thereby augmenting the Government's negotiating position. An additional benefit of the CPEP is in its ability to escalate/de-escalate cost data. This capability is useful to normalize proposal costs and to examine the budgetary aspects of a program's cost.

In summary, the RFP spells out the requirements for use of the standard WBS and the CPR. An offeror's cost proposal, when prepared in accordance with those RFP requirements, provides the data essential to the CPEP. In turn, uniform use of the CPEP assures consistent proposal-to-proposal (or proposal-to-Government cost estimate) results from the cost proposal evaluation process.

CHAPTER IV
DATA PREPARATION

Data preparation involves transcribing data submitted in the offerors' proposals to worksheets.[1]   These worksheets are given to data entry personnel who keypunch the data.

The RFP provides guidance[2] to the offerors for preparation of the proposal cost data. The RFP provides a unique Contract Work Breakdown Structure (CWBS) derived from the PM TRADE generic WBS. The CWBS provides a uniform cost element breakout for all cost data submissions. Upon receipt of the offerors' proposals, a preliminary review of the cost data assures conformance to RFP specifications. Particular attention is given to the CWBS. Adherence to the CWBS is essential to the CPEP process.

Proposal data are mapped on the three worksheets[1] listed below:

    1.   Cost/Hour Evaluation Worksheet.

    2.   Evaluation Worksheet Legend.

    3.   Value Worksheet.

1.   Cost/Hour Evaluation Worksheet

The Cost/Hour Evaluation Worksheet, Figure IV-I, contains identification data in the heading and a detail cost/hour breakout by category. This worksheet is completed for each appropriate element in the CWBS (for lowest evaluated elements only).

The Cost/Hour Evaluation Worksheet heading lists the following:

    1.   Project Name.

    2.   Offeror Name.

    3.   CWBS Number.

    4.   CWBS Title.

    5.   Worksheet Number.

The worksheet preparer enters his/her name and date at the lower righthand section of the worksheet. See Table IV, page 53, for a completed example.

---

1   See Appendix B

2   See Appendix A

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COST / HOUR EVALUATION WORKSHEET

PROJECT:	WBS NO:		CI	NO:
OFFEROR:	WBS TITLE:			

RATE CODE	CATEGORY	ESTIMATES				
		OFFEROR	*1	GOVERNMENT	*2	% ±
1010	MATERIAL ($)					
1020	SUBCONTRACT COSTS ($)					
1050	FIELD SUPPORT LABOR (HOURS)					
10.	ENGINEERING LABOR (HOURS)					
1120	OTHER DIRECT/MANUFACTURING LABOR (HOURS)					
1150	OTHER COSTS ($):					

*1 OFFEROR REALISM CODE *2 EVALUATOR CONFIDENCE CODE	SIGNATURE/DATE:
L = LOW M = MEDIUM H = HIGH	

FIGURE IV-1

1.0 <u>DESCRIPTION OF WBS ITEM:</u>

2.0 <u>ANALYSIS/RATIONALE FOR GOVERNMENT ESTIMATE:</u>

The body of the worksheet lists the estimated costs or hours by category and/or subcategory. The offeror's proposal cost and hour data are transcribed from the proposal cost forms. Each data item is assigned an offeror realism code: low, medium or high. In the righthand column adjacent to these data, the Government's estimate is entered. Each of the Government data items is assigned an evaluator confidence code: low, medium or high. Finally, +/- percentage is entered to indicate the percent spread (over or under) between the Government estimate and the offeror's estimate using the offeror's value as the base.

2.   Evaluation Worksheet Legend

The Evaluation Worksheet Legend, Figure IV-2, is used to assign rate code numbers to the subcategories. These rate codes are used by the CPEP to perform calculations and make printouts. The Evaluation Worksheet Legend heading lists the following:

    1.   Project Name.

    2.   Offeror Name.

    3.   Category.

    4.   Unit of Measure Hours or Dollars.

The preparer enters his/her signature, date and notes at the bottom of the form. See Tables I-A and II-A, pages 47 and 49, for completed examples.

The body of the worksheet lists the subcategory name, rate code and comments. A maximum of 29 rate codes is permitted per category. Numeric designation of the rate code among categories has no intercategory relationship. For example, rate code 1. of the engineering labor category bears no relationship to rate code 1. in the field support category. However, CPEP printouts list the rate codes in numeric order within each of the labor categories.

The Evaluation Worksheet Legend shown in Figure IV-2.A is a working example. It illustrates the type of subcategories that may be applied. The example also illustrates that rate codes are assigned sequentially and need not have a relationship which corresponds to competing offeror proposals.

EVALUATION WORKSHEET LEGEND

PROJECT: CATEGORY:

OFFEROR: UNIT OF MEASURE: ☐ HOURS
                                                                 ☐ DOLLARS
                                                                 ☐ FACTOR

SUB CATEGORY	RATE CODE	COMMENT

Note: Signature:
                                                Date:

FIGURE IV-2

EVALUATION WORKSHEET LEGEND

CONTRACTOR "ABC"		RATE CODE	CONTRACTOR "XYZ"	
1010	MATERIAL ($)		1010	MATERIAL ($)
	7210 MATERIAL	1		101 PURCHASE PARTS
	0421 P/S INT LOG SPT (MATL)	2		102 OTHER MANUF MATL
		3		103 OTHER ENGR MATL
		4		105 TOOL & MATL
1020	SUBCONTRACT COSTS ($)		1020	SUBCONTRACT COSTS ($)
	CAE	1		104 SUBCONTRACT < 100K
	GE	2		113 SUBCONTRACT > 100K
1050	FLD SPT LABOR (HRS)		1050	FLD SPT LABOR (HRS)
		1		502 FLD ENG DOMESTIC
		2		
1090	ENGINEERING LABOR (HRS)		1090	ENGINEERING LABOR (HRS)
	0111 ELEC ENGR	1		301 SYS ENGR
	0112 MECH ENGR	2		302 PROG PROCESSING
	0113 SYS ENGR	3		303 PROJ SYS ENGR
	0114 ADMIN ENGR	4		304 VISUAL ENGR
	0115 RCDS/REL ENGR	5		306 ENGRING LAB
	0401 P/S REL & MAINT	6		311 INST/CKT DESIGN
	0421 P/S ILS	7		312 MECH DESIGN
	0441 P/S FLD OPERAT	8		313 DESIGN & DRAFTING
	0461 P/S PRESENTATION	9		314 ADS OPERATOR
	0481 P/S LAB INTEG	10		318 FACILITY ENGR
	0483 P/S LAB QUAL	11		321 PROJ MGR
	0484 P/S LAB SUPT	12		322 PROJ ADMIN
	4001 PROG MGMT	13		323 CLERICAL
	4010 CONT TECH REQMT	14		326 PRODUCT ASSURANCE

FIGURE IV-2.A

090	ENGINEERING LABOR (CONTD)				
4210	FIN C CNTL EST	15		327	COMPONENT ENGR
4310	PLANNING	16		328	REL/MAINT ENGR
4510	CONTRACTS	17		331	DOCUMENT CONTROL
7210	MATERIEL	18		332	TRNG INSTR
7610	MICROELECTRONICS	19		333	ILS COORD
		20		334	RESEARCH & LIAISON
		21		335	WRITER/EDITOR
		22		336	ARTIST
		23		337	PROR ANAL/COMPILER
		24		341	TEST & CALIBRATE
1120	OTHER DIRECT/MANUFACTURING LABOR (HOURS)		1120		OTHER DIRECT/MANUFACTURING LABOR (HOURS)
0121	OFFSITE ELEC ENGR	1		401	FABRICATION
0123	O/S SYS ENGR	2		402	SUBASSEMBLY
0451	O/S P/S FLD OPER	3		403	FINAL ASSEMBLY
4002	O/S PROG MGMT	4		404	SIM SYSTEM CONTROL
		5		405	QC INSPECTION
		6		406	MFG ANAL/METHODS
		7		407	PACKING
		8		408	TOOL DESIGN
		9		409	TOOL FABRICATION
		10		410	PPC
		11		411	PMC

FIGURE IV-2.A

EVALUATION WORKSHEET LEGEND (Cont.)

150		OTHER COSTS ($)		1150		OTHER COSTS ($)
	0111	ELEC ENGR	1		201	SHIPPING
	0112	MECH ENGR	2		203	APO FAC (LESS C/M)
	0113	SYS ENGR	3		205	TRAVEL & SUBSISTENCE
	0115	RCDS & REL ENGR	4		210	F/S TRAVEL & SUBSISTENCE
	0123	OFFSITE SYS ENGR	5		214	F/S ODC MTL
	0401	P/S REL & MAINT	6		221	ROYALTY
	0421	P/S ILS	7		240	PREMIUM-DOMESTIC
	0441	P/S FLD OPER	8			
	0451	O/S P/S FLD OPER	9			
	0461	P/S PRESENTATION	10			
	0483	P/S LAB QUAL	11			
	4001	PROG MGMT	12			
	4002	O/S PROG MGMT	13			
	4210	FIN C CNTL EST	14			
	4310	PLANNING	15			
	4510	CONTRACTS	16			
	7210	MATERIEL	17			
	4101	DATA CTR ENGR	18			
	4104	DATA CTR P/S	19			
	4114	D/C P/S LABOR	20			
	4128	ORLANDO CONTROLS	21			
	4140	DATA CENTER CTR	22			
	4142	DATA CTR FINANCE	23			

FIGURE IV-2.A

EVALUATION WORKSHEET LEGEND (Cont.)

3.   Value Worksheet

The Value Worksheet, Figure IV-3, is used to present the numeric value (e.g., $24.00/hr.) of each rate code developed on the Evaluation Worksheet Legend. The Value Worksheet heading lists the following:

       1.   Project Name

       2.   Offerer Name

       3.   Category

       4.   WBS Element

The body of the form lists the 29 rate codes that may be used per category. Six columns are provided for entry of alternative data values. If more than six alternatives are to be compared or evaluated, additional forms may be used. See Tables I-B and II-B, pages 48 and 50, for completed examples.

Space is provided to enter the date and time of the computer run near the bottom of the form. This facilitates correlation of the values with computer printouts.

VALUE WORKSHEET

PROJECT: CATEGORY:

OFFEROR: WBS:

RATE	VALUE					
CODE	RUN 1	RUN 2	RUN 3	RUN 4	RUN 5	RUN 6
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
Computer date time						

FIGURE IV-3

CHAPTER V
USING CPEP

After preparing the Cost/Hour Evaluation Worksheets, Evaluation Worksheet Legend and Value Worksheets, the data are ready for input to the computer. The CPEP software assists in the analysis process by enabling the user to perform, check and correct quickly routine mathematical calculations.

The CPEP software is designed to operate in a conversational, interactive mode. It is user friendly, guiding the user through the operations via a series of prompts and responses. The CPEP is sufficiently simple to permit data input and operation after a 10 to 15 minute "walk through."

The steps required to operate the CPEP model are:

1.   Enter WBS.

2.   Log on computer and access CPEP.

3.   Enter Worksheet data.

4.   Request Printouts.

5.   Log off.

STEP 1

Enter WBS

The user employs the computer's edit function to create a file for the WBS. This function varies with each computer. If utilizing the HP 3000, see HP EDIT/3000 reference manual (Part Number 03000-90012). If using equipment other than the HP 3000, the user should reference the equipment manufacturer's manual appropriate to that system. An example of a WBS listing is shown below.

```
 1              COMBAT MISSION SIMULATOR1.0
 2      HARDWARE DESIGN & DEV          1.1
 3      PILOT TRAINEE STATION HDWR     1.1.1
 4      COCKPIT STRUCTURE              1.1.1.1
 5      SEAT                           1.1.1.2
 6      VENTILATION & A/C SYS          1.1.1.3
 7      INSTRUMENTS AND CONTROLS       1.1.1.4
 8      PROBLEM CONTROL PANEL          1.1.1.5
 9      ACCESS RAMP                    1.1.1.6
10      OTHER STATION APPARATUS        1.1.1.7
1'      INTEGRATION & ASSEMBLY         1.1.1.8
12      GUNNER TRAINEE STATION HDWR    1.1.2
13      COCKPIT STRUCTURE              1.1.2.1
14      SEAT                           1.1.2.2
15      VENTILATION & A/C SYS          1.1.2.3
16      INSTRUMENTS AND CONTROLS       1.1.2.4
17      PROBLEM CONTROL PANEL          1.1.2.5
18      ACCESS RAMP                    1.1.2.6
19      OTHER STATION APPARATUS        1.1.2.7
20      INTEGRATION & ASSEMBLY         1.1.2.8
```

STEP 2

Log on CPEP

Log on to the computer provides access to the CPEP. The user follows the procedures listed below:

a. Press the RETURN* key.

b. Enter HELLO USER NAME. ACCOUNT NAME, CPEP and press RETURN.

A prompt** appears requesting your security password:

Enter User Password.

c. Enter PASSWORD and press RETURN.

d. Enter RUN CPEP and press RETURN.

The user is now logged on to CPEP and the following message*** appears:

WELCOME TO CPEP

I imagine that to have gotten this far you have already memorized the handbook and have a full understanding of what you have to do to get me to do my stuff. So I'm sure you have input your WBS through the EDITOR function - RIGHT? - ANSWER Y or N. IF you answer Y, I will then proceed with the CPEP program and will be asking you to give me direction as I prompt you and to give me data as I ask for it. However if your answer N, I will give you further directions.

Enter Y and press RETURN.

*All terminal key strokes are CAPITALIZED.
Prompts which will appear on the terminal screen are printed in **bold print.
***Messages which will appear on the terminal screen are printed in italic print.

STEP 3

Enter Worksheet Data

A prompt appears on the screen for the file or project name.

a. Enter PROJECT NAME and press RETURN.

A prompt appears on the screen requesting the user to declare the file as new or old. The "new" classification pertains to the first time a project is being entered. All other cases are old.

If new,

a. Enter N and press RETURN.

Enter PROJECT NAME.
The following prompt appears:
Enter Contractor Name.

b. Enter CONTRACTOR NAME and press RETURN.

The following prompt appears:

Do you want to make any changes to contractor name?

c. Enter N and press RETURN.

If old,
A prompt appears asking if the user wants to change the project name.

a. Enter N and press RETURN.

After the user has declared the project either new or old and followed the prescribed steps, the Master Menu appears as follows:

MASTER MENU

Here are the options available to you now

1   *You can input or change your hourly, burden and overhead rates from value worksheets*

2   *You can input or change your cost and hour data from cost/hour worksheets*

3   *Your can have me add up your inputs*

4   *You can get a printout of the unburdened costs*

5   *You can have me add up and print your functional element totals*

6   *You can change your rates and recalculate the labor dollar values from value worksheets*

7   *You can calculate your burden and overhead values and get printouts of your burdens and overheads and total costs*

8   *You can deflate/inflate the costs and get a printout of the results*

9   *Or you can call it quits*

So what will it be 1, 2, 3, 4, 5, 6, 7, 8 or 9?

The choices listed in the Master Menu are in the order that the user would normally follow in exercising the CFEP software. For example, choices 1 and 2 are data entry steps. When starting a new project, the user must enter data with these steps before the computer can perform calculations and printing. The remaining choices or processes are listed in the sequence that would normally be required in setting up a new project. However, the user may select any of the nine choices that are listed in the Master Menu, especially when using "old" project data.

Explanations of each of the nine choices follow. Included in each explanation is a description of the function of each choice, a procedure for the user to follow, and examples of terminal screen displays and prompts.

INPUT OR CHANGE HOURLY, BURDEN AND OVERHEAD RATES FROM VALUE WORKSHEETS.

> Choice 1 allows the user to enter hourly rates, overhead rates and burden rates (burden rates consist of G&A, cost of money and profit) from the Value Worksheets.

To select choice 1 from the Master Menu, enter 1 and press RETURN. The rate input routine screen display appears as follows:

RATE INPUT ROUTINE

These are your options

1   Create

2   Modify

3   Exit and list

Enter your selection:

Option 1 CREATE

> Option 1 requests the user to enter the hourly rate from the Value Worksheet for each of the labor categories (field support, engineering, and other/direct manufacturing), as well as overhead rates, burden rates, etc. To select option 1 - CREATE - use the following procedures:

a.   Enter 1 and press RETURN.

   The prompt for entering rate code and rate value appears.

b.   Enter rate code RATE NUMBER and RATE VALUE and press RETURN.

c.   Continue until all data from Value Worksheets have been entered.

d.   When all rate data for a category are entered,

   Enter 0,0 and press RETURN.

e.   When all rate data for all categories are entered,

   Enter 0,0 and press RETURN.

   This returns the user to the rate input routine.

The screen display examples for Option 1 are:

Enter your rate code and rate for field support
Examples: 1, 12.34 or 15, 9.87 - Enter 0,0 to exit
1

1

Enter your rate code and rate for field support
Examples: 1, 12.34 or 15, 9.87 - Enter 0,0 to exit
2

1

Enter your rate code and rate for field support
Examples: 1, 12.34 or 15, 9.87 - Enter 0,0 to exit
3

1

Enter your rate code and rate for field support
Examples: 1, 12.34 or 15, 9.87 - Enter 0,0 to exit
0

0

Enter your rate code and rate for field support
Examples: 1, 12.34 or 15, 9.87 - Enter 0,0 to exit
4, 1

Enter your rate code and rate for field support
Examples: 1, 12.34 or 15, 9.87 - Enter 0,0 to exit
5, 1

Enter your rate code and rate for field support
Examples: 1, 12.34 or 15, 9.87 - Enter 0,0 to exit
2, 1

Enter your rate code and rate for field support
Examples: 1, 12.34 or 15, 9.87 - Enter 0,0 to exit
0

0

Enter your rate code and rate for other/direct manufacturing
Examples: 1, 12.34 or 15, 9.87 - Enter 0,0 to exit

OPTION 2 MODIFY

Option 2 permits the user to modify any rates that
have been entered previously. To select option 2 -
MODIFY - use the following procedure:

    a.   Enter 2 and press RETURN.

    b.   Enter the code which corresponds to the category to be modified and press
RETURN.

        The following prompt appears:

        Edit which rate?

    c.   Enter the rate code NUMBER to be modified and press RETURN.

    d.   Enter the new VALUE* and press RETURN.

    e.   Continue until all modifications are entered.

    f.   Enter 0 and press RETURN to to go to the next category. This brings the
user back to the screen that requests another code (category).

    g.   To exit modify enter 0 and press RETURN.

    A screen display example for option 2 is as follows:

Enter the code for the element you wish to edit (0 to quit):
Note:

1.	*Field Supt Rates*	7.	*Engineering O/H*
2.	*Engineering Rates*	8.	*Other/Direct Manufacturing O/H*
3.	*Other/Direct Mfg. Rates*	9.	*Other O/H*
4.	*Materiel O/H*	10.	*Burden*
5.	*Subcontracted O/H*	11.	*General and Administrative*
6.	*Field Support O/H*	12.	*Cost of Money*
		13.	*Profit*

* Example:
For labor rates, enter $12.34/hr as 12.34, $9.87/hr as 9.87, etc.
For percent rates, enter 15% as .15, 120% as 1.2, etc.

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RATES FOR FIELD SUPPORT

EDIT WHICH RATE ? (0 TO QUIT)

1	2	3	4	5	6	7
1.00	2.00	3.00	4.00	5.00	.00	.00
8	9	10	11	12	13	14
.00	.00	.00	.00	.00	.00	.00
15	16	17	18	19	20	21
.00	.00	.00	.00	.00	.00	.00
22	23	24	25	26	27	28
.00	.00	.00	.00	26.00	27.00	28.00

29

29.00

OPTION 3 EXIT AND LIST

Option 3 produces printouts of all rates that have
been entered. In addition, the program returns the
user to the Master Menu for a subsequent choice.

Choice 2 - INPUT OR CHANGE COST AND HOUR DATA FROM COST/HOUR
WORKSHEETS

Choice 2 from the Master Menu permits the user to
enter dollars (cost of materials, subcontract items
and other) and hour (field support, engineering and
other/direct manufacturing) data from the
Cost/Hour Worksheets. To select choice 2, use the
following procedure:

To enter dollar and hour data, enter 2 and press RETURN.

A screen display example for choice 2 appears as follows:

DOLLAR AND HOUR INPUT ROUTINE

These are your options

1   *Create*

2   *Add*

3   *Modify*

4   *Exit and list*

Enter your selection:

OPTION I CREATE

Option I requests the user to enter cost and hour
data for each WBS element.   The program
automatically sequences from category to category
in the following order:

ITEM NUMBER	CATEGORY CODE	CATEGORY DESCRIPTION	UNIT
1.	1010	Material	$
2.	1020	Subcontracted Items	$
3.	1050	Field Support	Hours
4.	1090	Engineering	Hours
5.	1100	Other/Direct Mfg.	Hours
6.	1150	Other	$

a.   Enter 1 and press RETURN.

A prompt will appear showing the WBS cost element and category with this instruction:

Enter code, or 9999 to quit adding, or o to quit this column:

b.   Enter the rate code NUMBER and press RETURN.

c.   Enter the amount VALUE and press RETURN.

d.   Continue until all data are entered.

The user may proceed to the next category by entering O or may enter 9999 to return to the screen for the dollar and hour input routine of choice 2.

A screen display example for Option 1 is as follows:

COCKPIT STRUCTURE   *1.01.01.01*

ENTERIES FOR 1010 MATERIAL

Enter code, or 9999 to quit adding, or 0 to quit this column: 1
Enter amount: 1
Enter code, or 9999 to quit adding, or 0 to quit this column: 2
Enter amount: 25
Enter code, or 9999 to quit adding, or 0 to quit this column: 3
Enter amount: 100
Enter code, or 9999 to quit adding, or 0 to quit this column: 0
0

Option 2 ADD

With one exception, option 2 is the same as option 1, CREATE. The exception is that when selected, the ADD Option sequences the user directly to the last entry made. Therefore, if the user is interrupted during a data entry process under option 1, at any future time the user may move directly to the last entry made. The procedure is as follows:

a. Enter 2 and press RETURN. The next category that has received no data appears. Proceed in accordance with the CREATE option.

Option 3 MODIFY

Option 3 permits the user to modify any dollar or hour data entered previously. The program shifts from WBS element to WBS element and requests the user to identify the category to be changed. The procedure for option 3 MODIFY is as follows:

a. Enter WBS NUMBER and press RETURN.

A screen appears showing the total value of each category within that WBS element.

b. Enter the CATEGORY NUMBER (1 to 6) to be modified and press RETURN.

A screen of all dollar or hour values appears for rate code (field) within that category.

c. Enter RATE CODE (field) number to be modified and press RETURN.

d. To advance to the next sequential rate code (field) and press RETURN.

e. To move to the next category, enter 0 and press RETURN.

f. Continue until all the categories are modified.

g.   To move to the next option, enter O and press RETURN.

A screen display example for option 3 - Modify - follows:

DESCRIPTION	WBS #
PILOT TRAINEE STATION HDWR	1.01.01

MATL $ (1)	SCI $ (2)	FS HOURS (3)	FS $	ENG HOURS (4)
0	0	0	0	0

ENG $	O/D M HOURS (5)	O/D M $	OTHER $ (6)	TOTAL $
0	0	0	0	0

EDIT WHICH FIELD (1-6, OR 0 TO QUIT):

DESCRIPTION   WBS #
PILOT TRAINEE STATION HDWR   1.01.01
1010 MATERIAL
EDIT WHICH RATE ? (0 TO QUIT)

1	2	3	4	5	6	7
0	0	0	0	0	0	0
8	9	10	11	12	13	14
0	0	0	0	0	0	0
15	16	17	18	19	20	21
0	0	0	0	0	0	0
22	23	24	25	26	27	28
0	0	0	0	0	0	0

29
0

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Option 4 EXIT AND LIST

Selection of option 4 results in printouts of all data entered; i. e., costs and hours for the six categories. A separate sheet is printed for each WBS element. Pressing the EXIT and LIST selection followed by RETURN also moves the user back to the Master Menu for further processing.

Choice 3 - <u>YOU CAN HAVE ME ADD UP YOUR INPUTS.</u>

Choice 3 is a directive to the computer to process the data that has been entered in choice 1 and choice 2. No printouts result. All processing is internal to the computer and requires no further user action. The procedure for choice 3 is as follows:

a. Enter 3, and press RETURN.

The program remains at the Master Menu for further instruction.

Choice 4 - YOU CAN GET A PRINTOUT OF THE UNBURDENED COSTS.

Choice 4 produces a printout of the calculations that the computer has made within choice 4. The printout lists all WBS elements vertically in numerical order. The categories (1010, material; 1020, subcontracted items; 1050 field support hours; etc.) are listed horizontally on the top of the table. The column TOTAL UNBURDENED is included. The procedure is as follows:

a.   Enter 4, and press RETURN.

The program remains at the Master Menu for further instruction. An example of the printout is as follows:

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CONTRACTOR ABC
FILE SAMP

DATE APR 6, 1983, 10:23 HR
PAGE 1

SAMPLE
COSTS BY WBS FORMAT
UNBURDENED DOLLARS IN:

WBS NO	ELEMENT NAME	1010 MATL $	1020 SCI $	1050 FS HR	1060 FS $	1090 ENG HR	1100 ENG $	1120 OD/M HR	1130 OD/M $	1150 OTHER $	TOTAL UNBURDENED $
1.00	HARDWARE DESIGN & DEV	3740	6800	800	21250	16700	265500	2935	35985	1140	334...
1.01	PILOT TRAINEE STATION MDUR	3740	6800	800	21250	16700	265500	2935	35985	1140	334...
1.01.01	COCKPIT STRUCTURE	1670	3400	500	10625	6800	107100	1350	16650	420	140...
1.01.02	SEAT	1100	2000	50	6250	4000	63000	300	3700	10	
1.01.03	VENTILATION & H/C SYS	110	200	50	625	400	6300	150	1850	30	
1.01.04	INSTRUMENTS AND CONTROLS	110	200	50	625	400	6300	150	1850	100	
1.01.05	PROBLEM CONTROL PANEL	110	200	50	625	400	6300	150	1850	50	
1.01.06	ACCESS RAMP	110	200	50	625	400	6300	150	1850	60	
1.01.07	OTHER STATION APPARATUS	110	200	150	625	400	6300	150	1850	70	
1.01.08	INTEGRATION & ASSEMBLY	110	200	50	625		6300	150	1850	80	
1.02	GUNNER TRAINEE STATION HOUR	1070	3400	850	10625	9900	158400	1585	13335	720	13475...
1.02.01	COCKPIT STRUCTURE	1100	2000	500	6250	6000	96000	300	3700	20	104...
1.02.02	SEAT	110	200	50	625	600	9600	150	1850	40	
1.02.03	VENTILATION & A/C SYS	110	200	50	625	600	9600	150	1850	50	
1.02.04	INSTRUMENTS AND CONTROLS	110	200	50	625	600	9600	225	2775	80	
1.02.05	PROBLEM CONTROL PANEL	110	200	50	625	600	9600	150	1850	100	
1.02.06	ACCESS RAMP	110	200	50	625	600	9600	150	1850	120	
1.02.07	OTHER STATION APPARATUS	110	200	50	625	600	9600	225	2775	140	
1.02.08	INTEGRATION & ASSEMBLY	110	200	50	625	300	4800	160	1760	160	

Choice 5 - <u>YOU CAN HAVE ME ADD UP AND PRINT YOUR FUNCTIONAL</u>
<u>ELEMENT TOTALS.</u>

Choice 5 directs the computer to total the values
and print the results for each WBS element. Each
WBS element and its associated data is printed on a
separate page.   All WBS levels are printed; i.e.,
subtotals as well as the lowest WBS levels. All costs
are shown as unburdened.   The procedure is as
follows:

a.   Enter 5, and press RETURN.

An example of the printout follows.

DESCRIPTION:

WBS # : 1.00

RC	1010 MAT'L $	1020 SCI $	1050 FS HR	1060 FS $	1090 ENG HR	1100 ENG $	1120 OD/M HR	1130 OD/M $	1150 OTHER $	TOTAL $
	300	600	170	21250	500	30000	1005	11935		131465
	3400		100		11700	175500	1650	24850		262950

EXAMPLE

TOT	3700	6000	1800	21250	16700	205500	2935	35395	1140	544415

Choice 6 - <u>YOU CAN CHANGE YOUR RATES AND RECALCULATE THE</u>
<u>LABOR DOLLAR VALUES FROM VALUE WORKSHEET.</u>

Choice 6 is recommended for partial changes of
data contained in the Value Worksheet. Wholesale
changes should be performed with choice 1. The
procedure is as follows:

a. Enter 6 and press RETURN.

b. From this point, follow the same procedure as described under choice 1,
option 2.

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Choice 7   -   YOU CAN CALCULATE YOUR BURDEN AND OVERHEAD VALUES
              AND GET PRINTOUTS OF YOUR BURDENS AND OVERHEADS AND
              TOTAL COSTS.

Choice 7 directs the computer to calculate costs for each of the WBS elements. Two printouts are provided.

The first is a listing and summary of total costs, unburdened costs combined with burden costs.

The second is a printout of the difference between unburdened costs and total costs (referred to as "DELTAS").

Both printouts list vertically the WBS elements. Cost categories are listed horizontally under the table heading.

The screen display returns to the Master Menu for further direction after exercising choice 7. The procedure for choice 7 is as follows:

a.   Enter 7 and press RETURN.
     Examples of the printouts follow.

SAMPLE
COSTS BY WBS FORMAT
BURDENED DOLLARS IN-

WBS NO.	ELEMENT NAME	FUNCTIONAL ELEMENTS										
		1010 MATL $	1020 SCI $	1050 FS HR	1060 FS $	1090 ENG HR	1100 ENG $	112n OOM HR	113n OOM $	115n OTHER $	... ENG $
01.00	HARDWARE DESIGN & DEV	178150	377369	1800	1375824	16700	19645361	2935	2060212	57357	
01.01	PILOT TRAINEE STATION HOUR	178150	377369	700	1375824	16700	19645381	2935	2060212	57357	
01.01.01	COCKPIT STRUCTURE	89075	188664	850	687912	6800	7924747	1350	962459	20395	
01.01.02	SEAT	52397	110991	450	404654	4000	4661616	300	213889	466	
01.01.03	VENTILATION & A/C SYS	5240	11099	50	40465	400	466162	150	106944	971	
01.01.04	INSTRUMENTS AND CONTROLS	5240	11099	50	40465	400	466162	150	106944	1451	
01.01.05	PROBLEM CONTROL PANEL	5240	11099	50	40465	400	466162	150	106944	4856	
01.01.06	ACCESS RAMP	5240	11099	50	40465	400	466162	150	106944	2428	
01.01.07	OTHER STATION APPARATUS	5240	11099	150	40465	400	466162	150	106944	2914	
01.01 01	INTEGRATION & ASSEMBLY	5240	11099	50	40465	400	466162	150	106944	3393	
										3885	
01.02	GUNNER TRAINEE STATION HOUR	89075	188664	850	687912	9900	11720635	1585	1117713	34900	
01.02 01	COCKPIT STRUCTURE	52397	110991	500	404654	6000	7103415	300	213669	971	
01.02.02	SEAT	5240	11099	50	40465	600	710342	150	106944	1941	
01.02.03	VENTILATION & A/C SYS	5240	11099	50	40465	600	710342	150	150412	2914	
01.02.04	INSTRUMENTS AND CONTROLS	5240	11099	50	40465	600	710342	225	150412	3885	
01.02.05	PROBLEM CONTROL PANEL	5240	11099	50	40465	600	710342	225	150412	465	
01.02.06	ACCESS RAMP	5240	11099	50	40465	600	710342	150	150412		
01.02 07	OTHER STATION APPARATUS	5240	11099	50	40465	600	710342				
01.02 06	INTEGRATION & ASSEMBLY	5240	11099	50	40465	300	355171				

EXAMPLE

PROJECT: SAMPLE

CONTRACT NAME: ABC

WED, APR 6, 1983, 11:17 AM

DELTAS

WBS #	MATL $	SCI #	FS #	ENG #	OD/M $	OTHER $	BURDEN	G&A	COM	PROFIT	TOTAL
				----OVERHEAD----							
1.00	3964	9520	38250	584100	53978	1254	1230577	3384006	5651425	12420724	
1.01	3964	9520	38250	584100	53978	1254	1230577	3384006	5651425	12420724	
1.01.01	1982	4760	19125	235620	24975	462	512387	1403064	2353137	5171734	
1.01.01.01	1166	2800	11250	13668	5550	11	262524	776942	1297493	2651636	
1.01.01.02	117	280	1125	13660	2775	22	32740	90036	150360	330462	
1.01.01.03	117	280	1125	13660	2775	33	32766	90105	150476	330716	
1.01.01.04	117	280	1125	13660	2775	110	32942	90590	151266	332476	
1.01.01.05	117	280	1125	13660	2775	55	32816	90244	150707	331225	
1.01.01.06	117	280	1125	13660	2775	66	32841	90313	150623	331479	
1.01.01.07	117	280	1125	13660	2775	77	32866	90332	150939	331733	
1.01.01.08	117	280	1125	13660	2775	88	32892	90452	151054	331703	
1.01.02.01	1982	4760	19125	349430	29000	792	716190	1975042	3295267	7245759	
1.01.02.02	1166	2800	11250	211200	5550	22	409276	1125431	1875570	4130352	
1.01.02.03	117	280	1125	21120	2775	44	45463	125022	208788	458374	
1.01.02.04	117	280	1125	21120	2775	66	45513	125163	209019	459353	
1.01.02.05	117	280	1125	21120	4163	88	48339	132931	221355	457201	
1.01.02.06	117	280	1125	21120	4163	110	48389	133070	222226	434404	
1.01.02.07	117	280	1125	21120	2775	132	45664	125577	209713	460497	
1.01.02.08	117	280	1125	21120	4163	154	48490	133347	222689	459497	
	117	280	1125	10560	2640	176	27063	74424	124267	273159	

Choice 8   -   <u>YOU CAN DEFLATE/INFLATE THE COSTS AND GET A PRINTOUT</u>
<u>OF THE RESULTS.</u>

Choice 8 provides the capability to inflate constant dollars or deflate escalated dollars. As is always the case with inflating or deflating dollars, the procedure requires timephasing (spreading dollars over years). Therefore the user is prompted for information regarding how the inflation or deflation is to proceed: Number of years costs are spread over? Percentage of cost in each year? Constant dollar (base) year? User may choose either R&D or Investment inflate/deflate factors and may also choose composite or compound indices. Factors for the inflate/deflate process are resident in the software, but may be adjusted as necessary by the user via a prompt from the software. Completion of the choice 8 routine returns the user to the Master Menu. The procedure for choice 8 is as follows:

a.   Enter 8 and press RETURN.

The following prompt appears:

Do you wish to change your escalation factors? y/n

If from this <u>initial prompt</u>, the user selects Y, the following procedure applies:

a.   Enter Y and press RETURN.

The following prompt appears:

Which factor? R for R&D or I for investment factor.

b.   Enter R or I and press RETURN.

The following prompt appears:

1) Composite or 2) compound index, ans. I or 2.

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c. Enter 1 or 2 and press RETURN.

A screen appears showing the years and escalation factors.

The prompt asks: **Edit which year?**

d. Enter YEAR NUMBER and press RETURN.

The cursor advances to the year in question.

e. Enter ESCALATION FACTOR and press RETURN.

f. Continue until all entries are made.

g. Enter 0 and press RETURN.

A prompt asks: **Do you wish to change your escalation factors? y/n.**

h. Enter N and press RETURN.

The following prompt appears:

I assume that you want to spread the estimated costs over a number of years. The spread costs are then to be de-escalated using standard inflation factors.

Right now, I need some information from you.

How many years are the WBS items spread over?

i. Enter NUMBER OF YEARS and press RETURN.

The following prompt appears:

What is the first year the WBS costs are in?

Note: Because you are spreading costs over X years, your allowable range is 1st year to last year.

j. Enter YEAR and press RETURN.

The following screen appears:

You can de-escalate your costs by using up to 10 spread percentages. These percentages will be applied to the WBS items and then the de-escalation factors will be divided into the results and they will be summed and put back into their respective WBS items.

The following prompt appears:
Enter percentage for year.

k.   Enter percentage DECIMAL FACTOR and press RETURN.

l.   Continue until all entries are made.

The following screen appears:

Now it gets tricky
You have two options concerning how you want the costs reassembled:

1)   *You can have all your costs in one year's dollars or*
2)   *You can spread your costs via percentages*

NOTE: If you chose option 1, I will just de-escalate the costs and leave them in the
base year's dollars
However, if you choose option 2,
I will escalate the costs using a prorata share of the costs using the percentages you
specify
Do you want to choose option 1 or 2?

If user selects option 1, the following procedure applies:

a.   Enter 1 and press RETURN.

CPEP completes the operation including a printout and returns the user to
the Master Menu for further processing.

If the user selects option 2, the following procedure applies:

a.   Enter 2 and press RETURN.

The following prompt appears:

I assume that you want to spread the de-escalated costs over a number of
years. The spread costs are then to be escalated using standard inflation
factors. I need some information from you. How many years are the WBS
items spread over?

b.   Enter YEARS and press RETURN.

The following prompt appears:

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What is the first year the WBS costs are in?

c.   Enter <u>IST YEAR</u> and press RETURN.

The following screen appears:

You can escalate your costs by using up to 10 spread percentages. These percentages will be applied to the WBS items and then the escalation factors will be multiplied by the results and they will be summed and put back into their respective WBS items.

The following prompt appears:

Enter percentage for year.

d.   Enter DECIMAL VALUE and press RETURN.

e.   Continue until all entries are made.

CPEP completes the operation including a printout and returns the user to the Master Menu for further processing.

If from the <u>initial prompt</u> (reference page 39) the user selects N, the following procedure applies:

a.   Enter N and press RETURN.

The following prompt appears:

I assume that you want to spread the estimated costs over a number of years. The spread costs are then to be de-escalated using standard inflation factors.

Right now, I need some information from you.

How many years are the WBS items spread over?

b.   Enter NUMBER OF YEARS and press RETURN.

The following prompt appears:

What is the first year the WBS costs are in?

c.   Enter <u>IST YEAR</u> and press RETURN.

The following screen appears:

You can de-escalate your costs by using up to 10 spread percentages. These percentages will be applied to the WBS items and then the de-escalation factors will be divided into the results and they will be summed and put back into their respective WBS items.

The following prompt appears:

Enter percentage for year..

d.   Enter percent DECIMAL FACTOR and press RETURN.

e.   Continue until all entries are made.

The following screen appears:

Now it gets tricky

You have two options concerning how you want the costs reassembled:

1)   You can have all your costs in one year's dollars or

2)   You can spread your costs via percentages

NOTE: If you choose option 1, I will just de-escalate the costs and leave them in the base year's dollars

However, if you choose option 2,

I will escalate the costs using a prorata share of the costs using the percentages you specify

Do you want to choose option 1 or 2?

If user selects option 1, the following procedure applies:

a.   Enter 1 and press RETURN.

CPEF completes the operation including a printout and returns the user to the Master Menu for further processing.

If the user selects option 2, the following procedure applies:

a.   Enter 2 and press RETURN.

The following prompt appears:

I assume that you want to spread the de-escalated costs over a number of years. The spread costs are then to be escalated using standard inflation factors.

I need some more information from you. How many years are the WBS items spread over?

b. Enter NUMBER OF YEARS and press RETURN.

The following prompt appears:

What is the first year the WBS costs are to be escalated?

NOTE: Because you are spreading costs over X years, your allowable range is 1st year to last year.

c. Enter IST YEAR and press RETURN.

The following screen appears:

You can escalate your costs by using up to 10 spread percentages. These percentages will be applied to the WBS items and then the escalation factors will be multiplied by the results and they will be summed and put back into their respective WBS items.

The following prompt appears:

Enter percentage for year.

d. Enter DECIMAL VALUE and press RETURN.

e. Continue until all entries are made.

CPEP completes the operation including a printout and returns the user to the Master Menu for further processing.

NOTE: In option 2 to change constant dollars from one base year to a different base year, user responds to the prompt (What is the first year the WBS costs are to be escalated?) by entering the year to which the base year dollars are to be converted (i.e., the year the dollars are being converted to). When user requires such a change, the software automatically applies compound inflate/deflate indices.

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<u>Choice 9</u> - <u>YOU CAN CALL IT QUITS</u>

The following procedure applies:

a.   Enter 9 and press RETURN.

The screen displays END OF PROGRAM.

b.   Enter BYE and press RETURN.

CHAPTER VI
SAMPLE CPEP ANALYSIS

A sample set of worksheets and printouts are presented in this chapter to illustrate CPEP.

The sample utilizes a 20 cost element WBS and the standard CPEP categories. Data values are chosen for simplicity of tracking (e.g., 10, 100, 1,000, etc.) and do not represent actual data.

The material presented herein is incomplete. This is necessary to avoid having the reader leaf through volumes of repetitive material. Enough examples are included to show each operation.

Evaluation Worksheet Legend and Value Worksheets, Tables I-A, I-B, II-A and II-B are shown for the engineering and general administrative categories only.

Engineering has two subcategories: (1) systems engineer and (2) mechanical engineer; assigned rate codes 1 and 2, respectively. For Run 1, systems engineer is assigned the value 18.00 while mechanical engineer is assigned the value 15.00. These values represent the engineering costs per hour. CPEP multiplies the values by the number of engineering hours to obtain engineering costs. The same costs per hour are used in all cost elements that have systems or mechanical engineering hours.

The general and administrative factor is 15% (.15). This factor is applied against all cost elements.

Data prepared on the Value Worksheets are entered using choice 1 of the Master Menu. A printout is generated when choice 1 is completed. The printout shows the input data, Table III. Note: User has the option of combining several rates such as G&A, Cost of Money (COM), and Profit into one rate.

Cost/Hour Evaluation Worksheet data are entered using choice 2 of the Master Menu. Sample data are shown in Table IV. Note the system engineering and mechanical engineering hourly values. These data are multiplied by the hourly rates shown previously.

A printout of each WBS cost element at the lowest levels and the summary of all WBS cost elements is generated by choices 3 and 4 of the Master Menu. Table V is an example of an individual WBS cost element printout of unburdened costs. Note the 1,000 and 3,000 hour entries under engineering hours and their associated costs $18,000 and $45,000.

A summary of unburdened costs by WBS cost element and categories is shown in Table VI. Note the cockpit structure data are taken from the cockpit structure individual WBS cost element printout, Table V.

TABLE I-A

EVALUATION WORKSHEET LEGEND

PROJECT: SAMP DATA

CATEGORY: ENGINEERING

OFFEROR: ABC

UNIT OF MEASURE: ☒ HOURS
☐ DOLLARS
☐ FACTOR

SUB CATEGORY	RATE CODE	COMMENT
SYSTEMS ENG.	1	
MECHANICAL ENG.	2	

Note:

Signature: Joe Chp
Date: 4/5/83

TABLE I-B

VALUE WORKSHEET

PROJECT: SAMP DATA   CATEGORY: ENGINEERING

OFFEROR: ABC

RATE CODE	VALUE					
	RUN 1	RUN 2	RUN 3	RUN 4	RUN 5	RUN 6
1	18.00					
2	15.00					
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
Computer date time						

TABLE II-A

EVALUATION WORKSHEET LEGEND

PROJECT: SAMP DATA

CATEGORY: G & A

OFFEROR: ABC

UNIT OF MEASURE: ☐ HOURS

☐ DOLLARS

☒ FACTOR

SUB CATEGORY	RATE CODE	COMMENT
G & A	1	

Note:

Signature: Joe Gray

Date: 4/5/83

TABLE II-B

VALUE WORKSHEET

PROJECT: SAMPDATA   CATEGORY: G+A

OFFEROR: ABC

RATE CODE	VALUE					
	RUN 1	RUN 2	RUN 3	RUN 4	RUN 5	RUN 6
1	.15					
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
Computer date time						

TABLE III
SAMPLE RATE INPUTS

RATES USED IN THE SAMPLE PROGRAM   TUE, APR 5, 1983, 4:18 PM

RATES FOR ENGINEERING

RATE CODE	RATE	RATE CODE	RATE
1	18	16	0
2	15	17	0
3	0	18	0
4	0	19	0
5	0	20	0
6	0	21	0
7	0	22	0
8	0	23	0
9	0	24	0
10	0	25	0
11	0	26	0
12	0	27	0
13	0	28	0
14	0	29	0
15	0	30	0

RATES USED IN THE SAMPLE PROGRAM   TUE, APR 5, 1983, 4:19 PM

RATES FOR MATERIAL OVERHEAD

RATE CODE	RATE
1	.1 (10%)

RATES FOR SUB-CONTRACTED ITEMS OVERH

RATE CODE	RATE
1	.2

RATES FOR FIELD SUPPORT OVERHEAD

RATE CODE	RATE
1	.2

TABLE III (Continued)
SAMPLE RATE INPUTS

RATES FOR ENGINEERING OVERHEAD

RATE CODE	RATE
l	1.5 (150%)

RATES FOR OTHER DIRECT/MANUFACTURING

RATE CODE	RATE
l	1.8

RATES FOR OTHER OVERHEAD

RATE CODE	RATE
l	1.1

RATES FOR OTHER BURDEN

RATE CODE	RATE
l	.4

RATES FOR GENERAL AND ADMINISTRATIVE

RATE CODE	RATE
l	.15

RATES FOR COST OF MONEY

RATE CODE	RATE
l	.003

RATES FOR PROFIT

RATE CODE	RATE
l	.1

COST / HOUR EVALUATION WORKSHEET

PROJECT: SAMP DATA	WBS NO: 1.1.1.1			CI	NO:
OFFEROR: ABC Co.	WBS TITLE: COCKPIT STRUCTURE				

RATE CODE	CATEGORY	ESTIMATES					% ±
		OFFEROR	*1	GOVERNMENT		*2	
✗	MATERIAL ($)						
1	RAW MAT'L.	500	M				
2	PURCH. PARTS	800	M				
✗	SUBCONTRACT COSTS ($)						
1	XYZ CORP.	5,000	L				
✗	FIELD SUPPORT LABOR (HOURS)						
1	FS	500	L				
✗	ENGINEERING LABOR (HOURS)						
1	SYSTEM ENGR.	1,000	H				
2	MECH. ENGR.	3,000	H				
✗	OTHER DIRECT/MANUFACTURING LABOR (HOURS)						
1	FAB.	100	H				
2	ASSY.	200	M				
✗	OTHER COSTS ($):						
1	OTHER	500	L				

*1 OFFEROR REALISM CODE *2 EVALUATOR CONFIDENCE CODE	SIGNATURE/DATE:
L = LOW M = MEDIUM H = HIGH	Joe Grp 5 Apr. '83

TABLE V
INDIVIDUAL WBS COST ELEMENT
(UNBURDENED)

WBS # : 1.01.01.01   DESCRIPTION: COCKPIT STRUCTURE

RC	1010 MATL $	1020 SCI $	1050 FB HR	1060 FB $	1090 ENG HR	1100 ENG $	1120 OD/M HR	1130 OD/M $	1150 OTHER $	TOTAL UNBURDENED $
	500 000	5000	500	6250	1000 3000	1000 4500	100 200	1100 2600	500	31350 48400
TOT	1200	5000	500	6250	4000	6700	500	3760	500	79750

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TABLE VI
SUMMARY OF WBS COST ELEMENTS
(UNBURDENED)

CONTRACTOR ABC
FILE SAMP

PAGE 1

SAMPLE
COSTS BY WBS FORMAT
UNBURDENED DOLLARS IN: _____

WBS NO.	ELEMENT NAME	1010 MATL $	1020 OCT $	1050 FO HR	1060 FS $	1090 ENG HR	1100 ENG $	1120 OD/H HR	1130 OD/H $	1150 OTHER $	TOTAL UNBURDENED
01.00	COMBAT MISSION SIMULATOR	3940	9800	1800	21250	16700	265500	2935	35905	1630	338105
01.01	HARDWARE DESIGN & DEV	3940	9800	1800	21250	16700	265500	2935	35905	1630	338105
01.01.01	PILOT TRAINEE STATION HOUR	2070	640	950	10625	680	107100	1350	16650	910	143755
01.01.01.01	COCKPIT STRUCTURE	1300	500	500	6250	400	63000	300	3700	500	79750
01.01.01.02	SEAT	110	200	50	625	400	6300	150	1850	20	9105
01.01.01.03	VENTILATION & A/C SYS	110	200	50	625	400	6300	150	1850	30	9115
01.01.01.04	INSTRUMENTS AND CONTROLS	110	200	50	625	400	6300	150	1850	100	9185
01.01.01.05	PROBLEM CONTROL PANEL	110	200	50	625	400	6300	150	1850	50	9135
01.01.01.06	ACCESS RAMP	110	200	50	625	400	6300	150	1850	60	9145
01.01.01.07	OTHER STATION APPARATUS	110	200	150	625	400	6300	150	1850	70	9155
01.01.01.08	INTEGRATION & ASSEMBLY	110	200	50	625	400	6300	150	1850	80	9165
01.02	GUNNER TRAINEE STATION HOUR	1070	3400	850	10625	9900	158400	1585	19335	720	194350
01.02.01	COCKPIT STRUCTURE	1100	2000	500	6250	600	96000	300	3700	20	109070
01.02.02	SEAT	110	200	50	625	600	9600	150	1850	40	12425
01.02.03	VENTILATION & A/C SYS	110	200	50	625	600	9600	150	1850	60	12445
01.02.04	INSTRUMENTS AND CONTROLS	110	200	50	625	600	9600	225	2775	80	13390
01.02.05	PROBLEM CONTROL PANEL	110	200	50	625	600	9600	225	2775	100	13410
01.02.06	ACCESS RAMP	110	200	50	625	600	9600	150	1650	120	12505
01.02.07	OTHER STATION APPARATUS	110	200	50	625	600	9600	225	2775	140	13450
01.02.08	INTEGRATION & ASSEMBLY	110	200	50	625	300	4800	160	1760	160	7655

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Choice 5 of the Master Menu generates printouts similar to Table V, only at higher WBS levels. An example is shown on Table VII for WBS number 1.00. Note that the total values correspond to those shown on Table VI for WBS number 1.00.

A printout of the delta costs related to overhead, burden, general and administrative, cost of money and profit generated by Master Menu choice 7 are shown on Table VIII. The calculations leading to the total cost including profit for WBS number 1.1.1.1 are shown below:

ITEM	REFERENCE	VALUE
Unburdened cost	Table VI	79,750
Delta Cost		
Material	Table VIII	130
Subcontract	Table VIII	1,000
Field Support	Table VIII	1,250
Engineering	Table VIII	94,500
Manufacturing	Table VIII	6,660
Other	Table VIII	550
TOTAL DELTA COST		104,090
Unburdened + Delta costs		183,840
X Burden Rate		.4
Burden cost Table VIII		73,536
Unburdened + Delta + Burden costs		257,376
X G&A Rate		.15
General and Administration cost Table VIII		38,606
Unburdened + Delta + Burden + G&A costs		295,982
X COM Rate		.003
COM cost Table VIII		888
Unburdened + Delta + Burden + G&A + COM cost		296,870
X Profit Rate (100% cost + 10% profit)		1.10
Cost Total with all Factors Including Profit		326,557

Note that the total column on Table VIII includes the unburdened costs from Table VI, as well as the delta costs.

Table IX presents the sum of the unburdened and delta costs by WBS cost element and category.

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TABLE VII
INDIVIDUAL WBS COST ELEMENTS - HIGHER LEVEL
(UNBURDENED)

PROJECT: SAMPLE

CONTRACT NAME: ABC

DESCRIPTION: COMBAT MISSION SIMULATOR

WBS #: 1.00

RC	1010 MATL $	1020 SCI $	1050 FS HR	1060 FS $	1050 ENG HR	1100 ENG $	1120 OD/M HR	1130 OD/M $	1150 OTHER $	TOTAL UNBURDENED $
	740	9800	1700	21250	5000	9000	1085	11935	1630	135355
	3200		100		11700	175500	1050	24050		202750
TOT	3940	9800	1500	21250	16700	265500	2375	35985	1630	353705

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TABLE VIII
DELTA COSTS

PROJECT: SAMPLE

CONTRACT NAME: ABC

DELTAS
(OVERHEADS AND BURDENS)

WBS 0	MATL 0	SCI 0	FS 0	ENG 0	OD/N 0	OTHER 0	BURDEN	G&A	COM	PROFIT	TOTAL
1.00	394	1960	4250	390250	64773	1793	323884	169988	3921	130730	1437968
1.01	394	1960	4250	390250	64773	1793	323884	169988	3921	130730	1437968
1.01.01	207	1200	2125	160650	29974	1001	135592	71182	1642	54740	602144
1.01.01.01	130	1000	1250	94500	6660	550	73536	38606	988	29600	326558
1.01.01.02	11	40	125	9450	3330	22	8833	4637	107	3566	39226
1.01.01.03	11	40	125	9450	3330	33	8841	4641	107	3569	39262
1.01.01.04	11	40	125	9450	3330	110	8900	4672	108	3593	39524
1.01.01.05	11	40	125	9450	3330	55	8858	4650	108	3576	39330
1.01.01.06	11	40	125	9450	3330	66	8866	4654	108	3579	39374
1.01.01.07	11	40	125	9450	3330	77	8875	4659	108	3583	39413
1.01.01.08	11	40	125	9450	3330	88	8883	4663	108	3586	39449
1.01.02	107	600	2125	237600	34003	792	188212	98806	2279	75990	835824
1.01.02.01	110	400	1250	144000	6660	22	104605	54918	1263	42230	464528
1.01.02.02	11	40	125	14400	3330	44	12150	6378	147	4906	53956
1.01.02.03	11	40	125	14400	3330	66	12166	6386	148	4912	54029
1.01.02.04	11	40	125	14400	4995	88	13219	6939	161	5338	53706
1.01.02.05	11	40	125	14400	4995	110	13236	6940	161	5345	58761
1.01.02.06	11	40	125	14400	3330	132	12217	6413	148	4933	54254
1.01.02.07	11	40	125	14400	4995	154	13270	6966	161	5358	58930
1.01.02.08	11	40	125	7200	3160	176	7349	3858	90	2968	32640

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TABLE IX
SUMMARY OF WBS COST ELEMENTS
(BURDENED)

CONTRACTOR ABC
FILE SAMP

SAMPLE
COSTS BY WBS FORMAT
BURDENED DOLLARS IN:

DATE
PAGE 1

WBS NO.	ELEMENT NAME	1010 MATL $	1020 SCI $	1050 FS HR	1060 FS $	1090 ENG HR	1100 ENG $	1120 OD/M HR	1130 OD/M $	1150 OTHER $	TOTAL BURDENED $
.1.01	COMBAT MISSION SIMULATOR	7699	2006	1000	45292	16700	1179032	2935	178979	6080	1437968
.1.01	HARDWARE DESIGN & DEV	7699	2006	1000	45292	16700	1179032	2935	178979	6080	1437968
.1.01.01	PILOT TRAINEE STATION HDWR	4045	1640	950	22646	600	475699	1350	82810	3394	602144
.1.01.01.01	COCKPIT STRUCTURE	2540	1658	500	13322	400	279770	300	18403	1865	326558
.1.01.01.02	SEAT	215	426	50	1332	400	27977	150	9201	75	39226
.1.01.01.03	VENTILATION & A/C SYS	215	426	50	1332	400	27977	150	9201	111	39262
.1.01.01.04	INSTRUMENTS AND CONTROLS	215	426	50	1332	400	27977	150	9201	373	39524
.1.01.01.05	PROBLEM CONTROL PANEL	215	426	50	1332	400	27977	150	9201	187	39330
.1.01.01.06	ACCESS RAMP	215	126	50	1332	400	27977	150	9201	223	39374
.1.01.01.07	OTHER STATION APPARATUS	215	426	150	1332	400	27977	150	9201	262	39413
.1.01.01.08	INTEGRATION & ASSEMBLY	215	426	50	1332	400	27977	150	9201	298	39449
.1.01.02	GUNNER TRAINEE STATION HDWR	3654	7246	850	22646	9900	703423	1505	96169	2666	835824
.1.01.02.01	COCKPIT STRUCTURE	2149	-4264	500	13322	600	426315	300	18403	75	464528
.1.01.02.02	SEAT	215	426	50	1332	600	42632	150	9201	150	53956
.1.01.02.03	VENTILATION & A/C SYS	215	426	50	1332	600	42632	150	9201	223	54025
.1.01.02.04	INSTRUMENTS AND CONTROLS	215	426	50	1332	600	42632	225	13803	296	59706
.1.01.02.05	PROBLEM CONTROL PANEL	215	426	50	1332	600	42632	225	13803	373	58781
.1.01.02.06	ACCESS RAMP	215	426	50	1332	600	42632	150	9201	448	54254
.1.01.02.07	OTHER STATION APPARATUS	215	426	50	1332	600	42632	225	13803	522	58930
.1.01.02.08	INTEGRATION & ASSEMBLY	215	426	50	1332	300	21316	160	6754	597	32640

FUNCTIONAL ELEMENTS

Choice 8 of the Master Menu generates the printouts shown on Tables X and XI.

The costs found on Table VI represent the original input that is based upon the offerors' inflation factors. To compare costs among offerors, it is desirable to normalize the offerors' submission to a common base.

Costs on Table X adjust the original estaimte to constant year dollars. Thus all original cost estimates are normalized.

Costs on Table XI are normalized costs that have been escalated using inflation factors selected by the evaluation team.

TABLE X
NORMALIZED WBS COST ELEMENTS
(UNBURDENED)

CONTRACTOR ABC
FILE SAMP

SAMPLE
COSTS BY WBS FORMAT
NORMALIZED DOLLARS IN: _____

WBS NO.	ELEMENT NAME	1010 MATL $	1020 SCI $	1050 FS NR	1060 FS $	1090 ENG NR	1100 ENG $	1120 OD/M NR	1130 OD/M $	1150 OTHER $	TOTAL NORMALIZED $
01.00	COMBAT MISSION SIMULATOR	7790	20978	1050	45893	17000	1101532	3095	184790	6572	1447554
01.01	HARDWARE DESIGN & DEV	7790	20978	1050	45893	17000	1101532	3095	184790	6572	1447556
01.01.01	PILOT TRAINEE STATION HDWR	3982	13426	950	22291	6800	468154	1350	81512	3341	592705
01.01.01	COCKPIT STRUCTURE	2500	10491	500	13113	4600	275304	300	18115	1636	321439
01.01.02	SEAT	212	419	50	1311	400	27538	150	9057	74	38611
01.01.03	VENTILATION & A/C SYS	212	419	50	1311	400	27538	150	9057	109	38647
01.01.04	INSTRUMENTS AND CONTROLS	212	419	50	1311	400	27538	150	9057	367	38904
01.01.05	PROBLEM CONTROL PANEL	212	419	50	1311	400	27538	150	9057	184	38721
01.01.06	ACCESS RAMP	212	419	50	1311	400	27538	150	9057	220	38757
01.01.07	OTHER STATION APPARATUS	212	419	150	1311	400	27538	150	9057	258	38795
01.01.08	INTEGRATION & ASSEMBLY	212	419	50	1311	400	27538	150	9057	293	38831
01.02	GUNNER TRAINEE STATION HDWR	3808	7552	900	23602	10200	713370	1745	103276	3232	854650
01.02.01	COCKPIT STRUCTURE	2115	4197	500	13113	6000	419632	300	18115	74	457246
01.02.02	SEAT	212	419	50	1311	600	41964	150	9057	146	53111
01.02.03	VENTILATION & A/C SYS	212	419	50	1311	600	41964	150	9057	220	53162
01.02.04	INSTRUMENTS AND CONTROLS	212	419	50	1311	600	41964	225	13587	293	57766
01.02.05	PROBLEM CONTROL PANEL	212	419	50	1311	600	41964	225	13587	367	57660
01.02.06	ACCESS RAMP	212	419	50	1311	600	41964	150	9057	441	53401
01.02.07	OTHER STATION APPARATUS	212	419	50	1311	600	41964	225	13557	514	58006
01.02.08	INTEGRATION & ASSEMBLY	212	419	50	1311	300	20992	160	6617	502	32125

FUNCTIONAL ELEMENTS

TABLE XI
NORMALIZED AND ESCALATED WBS COST ELEMENTS
(UNBURDENED)

CONTRACTOR ABC
FILE BAMP

SAMPLE
COSTS BY WBS FORMAT
NORMALIZED AND ESCALATED DOLLARS IN: _____

DATE
PAGE 1

WBS NO.	ELEMENT NAME	1010 MATL $	1020 SCI $	1030 FS HR	1060 FS $	1090 ENG HR	1100 ENG $	1120 OD/H HR	1130 OD/H $	1150 OTHER $	TOTAL NORM/ESCAL $
.1.01.00	COMBAT MISSION SIMULATOR	8922	24203	1800	52405	16700	1366269	2935	207402	7046	1666326
.1.01	HARDWARE DESIGN & DEV	8922	24203	1800	52405	16700	1366269	2935	207402	7046	1666326
.1.01.01	PILOT TRAINEE STATION HDWR	4687	15806	950	26242	6800	551139	1350	95961	3933	697769
.1.01.01.01	COCKPIT STRUCTURE	2943	12351	500	15438	400	324199	300	21326	2161	378411
.1.01.01.02	SEAT	249	494	50	1544	400	32420	150	10662	87	45455
.1.01.01.03	VENTILATION & A/C SYS	249	494	50	1544	400	32420	150	10662	129	45497
.1.01.01.04	INSTRUMENTS AND CONTROLS	249	494	50	1544	400	32420	150	10662	432	45801
.1.01.01.05	PROBLEM CONTROL PANEL	249	494	50	1544	400	32420	150	10662	217	45585
.1.01.01.06	ACCESS RAMP	249	494	50	1544	400	32420	150	10662	258	45627
.1.01.01.07	OTHER STATION APPARATUS	249	494	150	1544	400	32420	150	10662	304	45672
.1.01.01.08	INTEGRATION & ASSEMBLY	249	494	50	1544	400	32420	150	10662	345	45714
.1.01.02	GUNNER TRAINEE STATION HDWR	4234	8397	850	26242	9900	815131	1585	111441	3113	968555
.1.01.02.01	COCKPIT STRUCTURE	2490	4941	560	15438	6000	494016	300	21326	87	538296
.1.01.02.02	SEAT	249	494	50	1544	600	49402	150	10662	174	62525
.1.01.02.03	VENTILATION & A/C SYS	249	494	50	1544	600	49402	150	10662	258	62604
.1.01.02.04	INSTRUMENTS AND CONTROLS	249	494	50	1544	600	49402	225	15995	345	68023
.1.01.02.05	PROBLEM CONTROL PANEL	249	494	50	1544	600	49402	225	15995	432	68116
.1.01.02.06	ACCESS RAMP	249	494	50	1544	600	49402	150	10662	519	62870
.1.01.02.07	OTHER STATION APPARATUS	249	494	50	1544	600	49402	225	15995	605	68289
.1.01.02.08	INTEGRATION & ASSEMBLY	249	494	50	1544	300	24701	160	10141	692	37455

APPENDIX A

COST PROPOSAL REQUIREMENTS (CPR)

SAMPLE

COST PROPOSAL REQUIREMENTS (CPR)

for

(Enter Program Title)

COST PROPOSAL REQUIREMENTS (CPR)
FOR
(ENTER PROGRAM TITLE)

1.0 GENERAL

The offeror shall prepare the cost proposal in accordance with the requirements of this document. The proposed cost shall be developed based on the Contract Work Breakdown Structure (CWBS) set forth in this Request For Proposal (RFP).

2.0 METHODOLOGY AND RATIONALE

a. Cost estimates fully supported by data which are sufficient to establish the reasonableness, realism, and completness of the proposed cost/price shall be submitted for each contract WBS item. The proposals shall include a complete description of the philosophy and methodology used in developing cost estimates. It has been standard practice for contractors to include "boilerplate" statements extracted from the company's estimating policy. This is unacceptable. The proposal shall explain what specifically was used for each estimate. Supporting detail provided, for example, should include cost estimating relationships and cost factors that have been used, as well as assumptions concerned with economics, technology, schedules, plant volume, learning curves, allocations, comparisons to similar products, etc. The contractor, in the preparation of this estimate, shall insure that all WBS items are covered by an identifiable statement of work document and/or paragraphs thereof. When necessary, the contractor shall develop a substatement of work document to insure that cost estimates for discrete items (lowest level CWBS) can be readily separated from the remainder of the contractor proposal documentation. This estimating methodology and rationale shall be provided for all elements of the proposal.

b. "Estimating Methodology" means the manner or method in which a cost is estimated, its factual base, and assumptions incorporated in the estimate. This information is cost and pricing data within the meaning of the Truth in Negotiations Act and is included in that information which the offeror must certify.

c. "Estimating Rationale" means that process of reasoning and judgement, reduced to narrative in the proposal, which would lead a reasonable man to conclude that the estimate was equitable and realistic.

d. Offerors shall not presume that certain estimating methodologies are inherently reasonable and need not be supported by rationale.
The only cost which need not be supported by rationale are vendor costs where the amount is established under adequate price competition or by catalog prices where the item is sold to the general public in

sufficient quantities in a competitive market. Failure to provide supporting rationale for all other elements of the cost proposal is unacceptable.

e. Historical costs typically include realized contingencies, obsolete and/or inappropriate methods and technology, and structural and managerial inefficiencies. Use of historical or comparison costs without supporting rationale particuarly is unacceptable.

3.0 CWBS DICTIONARY

a. The offeror shall extend the Government Contract Work Breakdown Structure and provide a CWBS dictionary.

b. The CWBS extension and the CWBS dictionary shall be prepared in accordance with DI-A-3023/M-126-1 (MOD 1) "Contract Work Breakdown Structure (attachment I)".

4.0 DIRECT LABOR/COST DATA

The offeror shall provide the following information and data:

a. Labor Hours and Dollars

The offer shall , for each WBS element, at each level, prepare a spread sheet showing the following:

    (1) Labor hours by functional labor category.

    (2) Extended labor dollar cost by functional labor category.

    (3) Labor hours and dollars by functional labor category and by time periods used as the basis of the proposed cost (months, quarters, or fiscal years).

    (4) Total labor hours and dollars by functional labor category and by time periods (months, quarters, or fiscal years).

    (5) Total labor hours and dollars by functional labor category and time periods.

    (6) The time periods selected by the offeror for cost/hour spreading shall reflect the same approach used to develop the proposed cost.

    (7) The functional labor categories provided shall be the lowest level of functional labor aggregation which is used by the offeror in preparing the proposed cost.

    (8) The Contractor shall, for each labor category by WBS element, identify estimating methodology and rationale and show all calculations. All factors used shall be identified. The tasks performed by each labor category shall be described for each WBS element at the lowest level. The tasks shall be segregated as non-recurring or recurring. Define the non-recurring and recurring categories and their contents.

b. Burden Rates and Dollars

(1) If more than one overhead rate applies to labor in your accounting system, such as factory overhead, the labor categories shall be appropriately segregated.

(2) Labor rates applicable to each category by time period (month, quarter, or fiscal year).

(3) The applicable overhead rate(s) and dollars shall be shown by time period and total.

(4) Material handling burden, G&A, FCCM, etcetera, shall be applied to their appropriate base. Rates and dollars will be shown by time period and total. Each base shall be identified.

c. Subcontracts, Purchased Parts, Raw Materials, and Other Costs.

(1) The costs shall be segregated and shown in the time period in which the cost will be incurred.

(2) These costs shall be segregated and provided for each WBS element, at each level.

(3) For production contracts these costs shall be segregated and the non-recurring and recurring costs identified.

(4) The offeror shall provide the identification, estimating rationale and methodology, and detailed backup for all direct costs other than labor.

(5) The offeror shall provide a bill of materials prepared on DD Forms 346 and 347 and in accordance with the instructions on the reverse of the forms. A computer prepared list in the format of the DD Forms is acceptable. However, the prepared list shall be organized by WBS element.

d. All direct labor hours and cost data shall be presented in a manner which will allow the Government to readily extract the information according to the categories established in Format A, Cost/Hour   Evaluation Worksheet. An example of complete worksheet is provided for reference. The offeror should provide any distinguishing information or detail which would assist the Government in extracting information from the cost proposal to complete Cost/Hour   Evaluation Worksheet.

5.0 SUBCONTRACTOR COST AND PRICING DATA

The Contractor shall, in accordance with the criteria of paragraph 3-807.4 of the Defense Acquisition Regulation, obtain cost or pricing data from his subcontractors.

a. For each subcontractor (within the crieteria of DAR 3-807.4) the Contractor will submit that subcontractor's executed DD633 and (at a minimum)

the direct labor and cost data as required of the prime in this CPR, plus methodology and rationale.

b. Technical/Cost (best value) competition is not "adequate price competition" within the meaning of paragraph 3-807 of the Defense Acquisition Regulation. (See DAR 3-807.7(a)).

6.0 TRAVEL COSTS

The Contractor will set forth his travel costs in detail, (number of men, number of trips, locations, costs, etc.) together with his estimating methodology and rationale. He shall identify, and supply upon further request, his published corporate travel policy document.

7.0 FOREIGN TAXES, CUSTOMS, DUTIES, ROYALTIES, EXCISE TAXES, AND OTHER SPECIAL COSTS

The Contractor shall identify all costs which the terms of this RFP required to be separately reported and/or that the Contractor is required to certify the extent to which they are or are not included in the proposed cost. If none, for any given category, so state.

8.0 OTHER DIRECT COSTS

The Contractor shall identify and include here any costs not included elsewhere that will be charged as a direct cost to the contract. They will be broken down in detail and the estimating methodology and rationale provided.

9.0 TRANSPORTATION COSTS

The Contractor shall set forth the transportaion costs for shipment of the equipment from the Contractor's plant to the destination points specified in Section E, Deliveries of Performance of the RFP.

10.0 OVERHEAD, BURDEN RATES, PROFIT, AND RISK

a. The Contractor shall document all costs that will be allocated to the contract on an indirect basis.

b. Offeror shall, for each account in his accounting system (examples: engineering, overhead, manufacturing overhead, material handling overhead, G&A expense, etc.) reflect all costs that will be allocated for each account and specifically identify, in detail, the cost bases (by labor, material, etc. categories) to which each account is applicable. Identify the contents (pools) within each account.

c. Offeror shall submit DD Form 1861 and all backup thereto to reflect Facilities Capitol Cost of Money.

11.0 INFLATION RATE SUMMARY AND EXPLANATION

A table shall be provided showing all inflation rates used to prepare the cost proposal broken out by time periods and functional categories (at least material, subcontracts, labor, and other costs). The value of all weighted inflation rates used shall be provided. The basis for all area used shall be explained.

12.0 GFE COST DATA

The offeror's cost proposals shall identify the GFE being proposed. To insure that the government evaluates all offerors on a comparable basis the following data is required from both the prime offeror and subcontractor:

a. A list of all GFE (including quantities) proposed by WBS.

b. For each government furnished item identified in response to the preceding paragraph the offeror shall briefly describe the item and provide a CFE cost for providing the equivalent item, including the offeror's equivalent associated costs. The cost of each item of GFE shall be provided from current government stock list documentation.

c. The estimated fair rental value for the use of government property shall be furnished in summary (identifying both facility and other property dollars) with the cost documentation.

d. It is necessary that the Government be able to determine total program cost. Therefore, the offeror shall also address all associated costs such as test support, use of special test Government facilities, etc. The offeror should provide cost differences, quoted on each item (including quantities required) to assist the Government in determining the economics of providing the items as GFE in lieu of CFE.

13.0 PROJECT MASTER SCHEDULE MASTER PHASING CHART

Provide a master schedule chart depicting the milestones for each WBS element that controls the time phasing of the total project to meet the project schedule. This chart shall include major contract milestone requirements, especially contract award, post award conference, project planning review, computer program system management guidance conference, preliminary design reviews, critical design reviews, release of purchase orders for critical items with long lead times, critical functional computer program modules completion, DT&E test procedures delivery complete, real-time operation complete, and ready for government tests, tooling, CFE/GFE deliveries.

Identify critical interfaces between functional department schedules which support the master schedule, review the required contract milestone, comment specifically on the reasonableness of each milestone, and an ability to meet each milestone.

14.0 Cost Data Summary Report

For each contract the offeror shall prepare the Cost Data Summary Report (DD Form 1921) in accordance with DI-F-6006 MOD (attachment 2). In lieu of the contract line item and reporting elements (columns a and b), the WBS element number and name shall be provided for all WBS elements at each level to at least level 3. The proposed non-recurring, recurring and total costs shall be provided for each WBS element (columns d, e, and f). Omit columns g, h, i, and j. A separate DD 1921 shall be prepared for each subcontractor whose services require non-recurring effort. Provide definitions and explanations of the contents of both the non-recurring and recurring categories.

15.0 Manufacturing Data

Any manufacturing rationale in data form shall be explained. Definitions shall be provided for each variable. A clear explanation of the manufacturing estimate and calculations shall be provided.

16.0 Technical Data and Information

Prepare a list of the CDRL items and the price of each.

17.0 SUMMARY OF COST PROPOSAL INFORMATION REQUIRED

a. Material: $ by category by WBS by time spread.

b. Subcontractor: $ by category by WBS by time spread.

c. Field Support Labor: $ and hours by functional category by WBS by time spread.

d. Engineering Labor: $ and hours by functional category by WBS by time spread.

e. Manufacturing Labor: $ and hours by functional category by WBS by time spread.

f. Other Costs: $ by category by WBS by time spread.

g. Overhead: $, basis and rated by time spread.

h. Burden: $, basis and rates by time spread.

i. Labor Rates: $ by functional labor category by time spread.

j. Travel: Number of people each trip, number of trips, locations, type of labor, costs (per diem/transporation) and time spread.

k. Transportation: Identify costs and describe.

l. Other Direct Costs: Identify costs and describe.

m. Special Costs: Identify costs and describe.

n. Contract WBS: CWBS extension and CWBS dictionary.

o. Inflation Factors: Inflation rates by functional category and time spread.

p. Methodology and Rationale: Basis of bid, calculations, factors, tasks by WBS and non-recurring vs. recurring.

q. GFE: Separately identify and cost by WBS.

r. Each Contract: Non-recurrira efforts, $ and hours segregated from recurring efforts, $ and hours.

s. Subcontractor Information: Same above requirements as the Prime Contractor.

COST / HOUR EVALUATION WORKSHEET

PROJECT: EXAMPLE	WBS NO: 1.1.1.4		CI	NO:
OFFEROR: XYZ Corp.	WBS TITLE: Cockpit Sturcture - Panels (Example Only)			

RATE CODE	CATEGORY	OFFEROR	*1	GOVERNMENT	*2	% + −
1010 ⊠	MATERIAL ($)					
1	101 Purchased Parts	5000				
2	102 Other Manuf. Mat.	100				
3	103 Other Engr. Mat.	50				
1020 ⊠	SUBCONTRACT COSTS ($)					
1	A. B. Duke	3000				
2	F. C. D.	25000				
1050 ⊠	FIELD SUPPORT LABOR (HOURS)					
1	203 F/S	200				
1??0 ⊠	ENGINEERING LABOR (HOURS)					
1	305 Systems Engineer	100				
2	307 Visual Engineer	150				
3	308 Proj. Sys. Engr.	30				
4	310 Mech. Design	80				
5	312 Clerical	50				
1120 ⊠	OTHER DIRECT/MANUFACTURING LABOR (HOURS)					
1	401 Fabrication	25				
2	402 Subassembly	15				
3	403 Final Assembly	10				
1150 ⊠	OTHER COSTS ($):					
1	206 Travel & Subsistence	500				
2	207 Shipping	1000				
3	208 Computer	75				

SAMPLE

*1 OFFEROR REALISM CODE   *2 EVALUATOR CONFIDENCE CODE   SIGNATURE/DATE:

L = LOW   M = MEDIUM   H = HIGH

FORMAT A

DATA ITEM DESCRIPTION

1. TITLE

Contract Work Breakdown Structure

DESCRIPTION/PURPOSE

The contract work breakdown structure (contract WBS) establishes the framework for reporting program cost schedule, and technical performance. It provides a basis for uniform planning and reporting status and program visibility and assignment of responsibilities.

7. APPLICATION/INTERRELATIONSHIP

Used on programs where either cost/schedule control system criteria, in accordance with DOD Instruction 7000.2, or cost/schedule planning and control system requirements are to be applied.

10. PREPARATION INSTRUCTIONS

The contract WBS will be reflected in a report which consists of two parts, Part I is an Index, and part II will be the Dictionary.

a. <u>Part I, Index.</u> The contract WBS Index will contain the data elements as shown in the attached format. Instructions are as follows:

<u>Header</u> - Self explanatory.

<u>Columns:</u>

4 - <u>Line No.</u> Enter line item number entry.

5 - Work Breakdown Structure Elements/Tasks. Enter the title of the WBS element and indentured to reflect the level. Level 1 is the total contract. Levels 2, 3, etc., are successively lower levels of the program.

6 - <u>WBS Number.</u> Enter the WBS number as provided by the Government and extended by the contractor.

7 & 8 - <u>RDT&E Prod.</u> Place a checkmark in the appropriate columns to show whether the WBS element is associated with the RDT&E phase or the production phase, or both.

ATTACHMENT 1

DD FORM 1664

PAGE 1 OF 4 PAGES

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	2. IDENTIFICATION NO(S).	
	AGENCY	NUMBER

1. TITLE

Contract Work Breakdown Structure

DI-A-3023/
M-126-1 (MOD 1)

DESCRIPTION/PURPOSE

The contract work breakdown structure (contract WBS) establishes the framework for reporting program cost schedule, and technical performance. It provides a basis for uniform planning and reporting status and program visibility and assignment of responsibilities.

4. APPROVAL DATE

5. OFFICE OF PRIMARY RESPONSIBILITY

6. DOC REQUIRED

8. APPROVAL LIMITATION

7. APPLICATION/INTERRELATIONSHIP

Used on programs where either cost/schedule control system criteria, in accordance with DOD Instruction 7000.2, or cost/schedule planning and control system requirements are to be applied.

9. REFERENCES (Mandatory as cited in block 10)

MIL-STD-881

MCSL NUMBER(S)

10. PREPARATION INSTRUCTIONS

The contract WBS will be reflected in a report which consists of two parts, Part I is an Index, and part II will be the Dictionary.

   a. <u>Part I, Index</u>. The contract WBS Index will contain the data elements as shown in the attached format. Instructions are as follows:
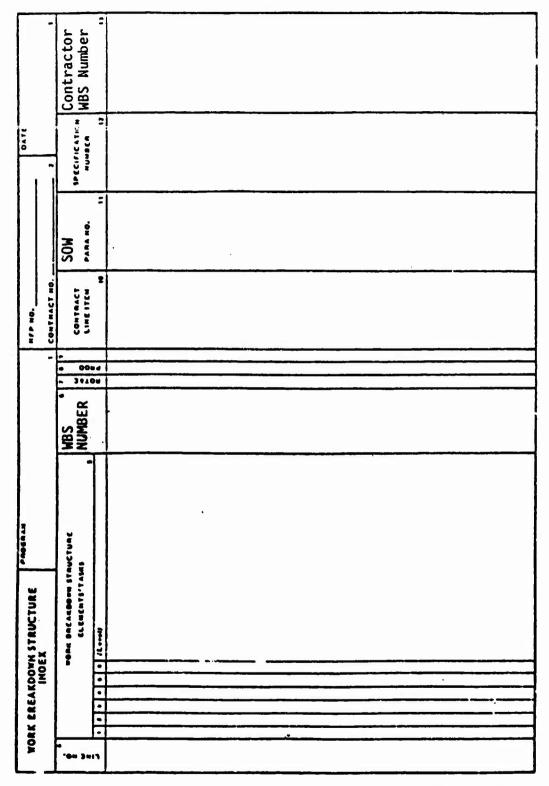
   <u>Header</u> - Self explanatory.

   <u>Columns</u>:

   4 - <u>Line No</u>. Enter line item number entry.

   5 - Work Breakdown Structure Elements/Tasks. Enter the title of the WBS element and indentured to reflect the level. Level 1 is the total contract. Levels 2, 3, etc., are successively lower levels of the program.

   6 - <u>WBS Number</u>. Enter the WBS number as provided by the Government and extended by the contractor.

   7 & 8 - <u>RDT&E Prod</u>. Place a checkmark in the appropriate columns to show whether the WBS element is associated with the RDT&E phase or the production phase, or both.

ATTACHMENT 1

9 - (Untitled.) This column will be used for other program phases such as a formal component improvement program.

10 - <u>Contract Line Item</u>. Enter the number of the contract line item which is associated with the WBS element.

11 - <u>Para No</u>. Enter the applicable paragraph numbers from the Statement of Work (SOW) which are associated with the WBS element.

12 - <u>Specification Number</u>. Where applicable, enter the number of the specification which covers the WBS element. If the specification is associated with more than one WBS element, indicate which paragraphs are applicable to the WBS element.

13 - <u>Contractor WBS Code</u>. Enter the WBS coding devised by the contractor when different from column 6 (WBS Number).

b. <u>Part II, WBS Dictionary and Contract Requirements</u>. The Dictionary/ Contract Requirements will describe the technical, physical, and cost content of every WBS element. It will describe what the element is and efforts associated with the WBS element (such as design, development, and manufacturing). It will also describe the physical configuration and components as well as distinguishing performance parameters of the hardware and software. For the WBS elements specified elsewhere for cost reporting, the WBS Dictionary definitions will also include the exact narrative of the directly associated work statement paragraphs. General arrangement of the Dictionary will be as displayed on the attached Part II format:

(1) The elements will be in the same order as the contract WBS index.

(2) Following the description of the element will be a listing of the next level of WBS element.

WORK BREAKDOWN STRUCTURE INDEX

PROGRAM

RFP NO. _____ CONTRACT NO. _____ DATE

LINE NO.	WORK BREAKDOWN STRUCTURE ELEMENTS/TASKS	WBS NUMBER	NOTE	PROG	CONTRACT LINE ITEM	SOW PARA NO.	SPECIFICATION NUMBER	Contractor WBS Number

Page 3 of 4 pages

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CONTRACT WORK BREAKDOWN STRUCTURE
PART II-WBS DICTIONARY AND CONTRACT REQUIREMENTS

ITEM NO.

PROGRAM TITLE   WBS ELEMENT TITLE AND NUMBER   PHYSICAL DESCRIPTION AND PERFORMANCE

DATE

ELEMENT TASK DESCRIPTION

TECHNICAL CONTENT   SPECIFICATION NUMBER   SPECIFICATION TITLE

                                                            COST CONTENT

                                                            SYSTEM CONTRACTOR

APPLICABLE WORK STATEMENT NARRATIVE   ASSOCIATE/SUB/SUB SUBCONTRACTOR

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DI-A-3023/M-126-1 (MOD 1) {Continued}
Preparation Instructions (Continued)

DATA ITEM DESCRIPTION	2. IDENTIFICATION NO(S).	
	AGENCY	NUMBER

1. TITLE

Cost Data Summary Report (DD Form 1921) | DOD | DI-F-6006(MOD)

3. DESCRIPTION/PURPOSE

To collect costs for all work breakdown structure (WBS) elements for providing cost backup for funds estimates. The report is used in preparing estimates in support of the Five. Year Defense Program, developing independent government and parametric cost estimates in support of cost and price analyses and contract negotiations, evaluating contractors' proposals and responding to requirements for summary information to higher levels of management. It segregates actual and estimated costs into their recurring and non-recurring components.

4. APPROVAL DATE

November 1973

5. OFFICE OF PRIMARY RESPONSIBILITY

OASD(C)

6. ODC REQUIRED

5. APPROVAL LIMITATION

7. APPLICATION/INTERRELATIONSHIP

a. The Cost Data Summary Report is applicable to major systems contracts for some large advanced development prototype efforts, full-scale development, and production with a total RDT&E estimate of over $50 million or cumulative production estimates of over $200 million or as specified in Chapter 1 of the Contractor Cost Data Reporting (CCDR) system.

b. This report is related to the Functional Cost-Hour Report, DID DI-F-6007; the Progress Curve Report, DID DI-F-6008; and the Plant-Wide Data Report, DID DI-F-6009.

9. REFERENCES (Mandatory as cited in block 10)

OMB 22-R-0322
DODI 7000.11
Contractor Cost Data Reporting (CCDR) system, NAVMT P 5241, AMCP 715-8, AFLCP/AFSCP 800-15.
Military Standard 881.

MCSL NUMBER(S)

AMSL No. 71556.

10. PREPARATION INSTRUCTIONS

a. The contractor shall prepare deliverable reports (DD Form 1921) in accordance with the instructions contained herein.

b. The contractor may submit hard copy printouts from his punched cards or magnetic tapes, in lieu of the OMB-approved DD Form 1921, Cost Data Summary Report, provided that the printouts are identical in content and structure with the DD Form 1921 (Chapter 3, Contractor Cost Data Reporting (CCDR) system).

c. DD Form 1921 - Cost Data Summary Report. The Cost Data Summary Report summarizes all activities included in the contract and aggregates costs against the reporting elements selected from the work breakdown structures defined in MIL-STD-881 and/or specified in the contract. The report shall provide information to at least level 3 of the WBS.

(1) The following instructions apply to DD Form 1921, the Cost Data Summary. Report. Leave items 4, 6, 7, 8, and 9 blank, unless otherwise specified by the DOD component. Also omit columns g, h, i, and j.

(a) Item 1 Program

Identify the system designator or the type, model, and series of the prime item or items being purchased under contract or being proposed for contract. If the contract or proposal is for or includes services (research, flight tests, etc.), specify the work to be performed. In the case of associate contractors and subcontractors reporting separately, identify the end item being purchased on the contract and the program for which it is being procured (e.g., aft body section of the F-X, wind

tunnel tests for the B-X, launch equipment for missile X).

(b) Item 2 Contract RFP Program Estimate - Check the RFP box.

(c) Item 3 RDT&E Procurement - Check the appropriate box.

(d) Item 5 Report As Of - Enter the reporting date.

(e) Item 10 Prime/Associate   Subcontractor

Check the Prime/Associate box if the contractor reporting is the prime or associate contractor for the work to be performed on contract or being proposed and enter the name, division (if applicable), and address of the reporting contractor. Check the subcontractor box if the report is being submitted by a subcontractor and enter the name, division (if applicable) and address of the reporting subcontractor.

(f) Item 11 Name of Customer

If the report is being submitted by a subcontractor enter the name of the customer for whom the work on contract is being performed. If the report is being submitted by a prime or associate contractor, leave item blank.

(g) Column a Contract Line Item (Work Breakdown Structure Element)

Enter the WBS element number as specified in the contract which relates to the reporting element in column b.

(h) Column b Reporting Elements (WBS Name)

Enter the reporting elements (WBS Name) specified in the contract or by the DOD component for which cost data is to be reported.

(i) Column c Element Code

Not applicable.

(j) Columns d, e, and f To Date - Cost Incurred - Nonrecurring, Recurring, and Total

(1) Costs of all reporting elements reported are to be segregated into nonrecurring and recurring classifications. For some elements these costs are clearly differentiated. For example, all systems or component tests (other than quality control tests, acceptance tests, etc.) mock-ups and construction of facilities are nonrecurring, regardless of whether these activities continue through the life of the program. Other elements are not so easily differentiated. Nevertheless, every attempt will be made to achieve a consistent and reasonable identification of these costs.

(2) General principles to be applied in the determination of nonrecurring and recurring costs apply to all research and development and production programs, as well as to any major modification during a program.

(a) Nonrecurring Costs - Nonrecurring costs include costs of the following:

(1) Preliminary design effort encompassing the translation of weapon systems concepts and requirements into specifications for new systems as well as for major modification of existing systems.

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(2) Design engineering that entails the specifications and preparation of the original set of detailed drawings for new systems as well as for major modifications of existing systems.

(3) With respect to (a) and (b), above, it is preferable to identify the point of segregation between nonrecurring and recurring engineering costs as a specific event or point in time. Ideally, the event used would be the point at which "design freeze" takes place as a result of a formal test or inspection, and after which formal engineering change proposal (ECP)procedures must be followed to change design. If no reasonable event can be specified for this purpose, then all engineering cost incurred up to the date of 90 percent engineering drawing release may be used. The precise method used for segregating recurring and nonrecurring engineering costs will be identified and explained in the "Remarks" space.

(4) Systems test and evaluation regardless of when it occurs in the life of a program.

(5) All partially completed reporting elements manufactured for tests (e.g., static, fatigue, dummy missiles, ground integration millile components, inert missiles).

(6) Costs of all tooling, manufacturing, and procurement effort specifically incurred in performing development or tests, except for the manufacture of complete units during the development program.

(7) The initial set of tools and all duplicate tools produced to permit the attainment of a specific rate of production for a program.

(8) Training of service instructor personnel.

(9) Initial preparation of technical data and manuals.

(10) Start-up costs such as plant lay-out, operations planning, plant rearrangement, tooling design and planning, the original industrial engineering efforts to perfect a manufacturing technique.

(b) Recurring Costs-Recurring costs include the following:

(1) Engineering required for redesign, modifications, reliability, maintainability, associated evaluation and liaison.

(2) Complete reporting elements produced either for test (e.g., R&D flight test, operational evaluation flight test, quality assurance, design evaluation, etc.) or for operational use.

(3) Tool maintenance, modification, rework, and replacement.

(4) Training all Service personnel to operate and maintain equipment.

(5) Reproduction and updating of technical data and manuals.

(3) For each reporting element in Column b, the reporting contractor will show an entry in separate lines for:

(a) Total costs (less G&A) from the inception of the contract excluding payments of those subcontractors separately reported on Cost Data Summary Reports.

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This requires that the prime contractor deduct from the total cost of each reporting element all amounts paid to each subcontractor reporting separately. The resultant figure reported by the prime contractor will be the prime contractor's costs plus the amounts of all subcontractors not separately reporting less payments to separately reporting subcontractors. Cost should be reported without regard to ceilings established for incentive contracts, or the price on firm fixed price contracts.

5. The cost for that portion of a reporting element being developed or manufactured by a separate reporting subcontractor. If a subcontractor has been designated to prepare a separate Cost Data Summary Report to the prime contractor, the prime contractor will insert in columns d, e, and f from the subcontractor's Cost Data Summary Report the costs for the selected reporting elements. If the subcontractor reports directly to the Department of Defense, the prime contractor will enter the appropriate price in column f for the subcontract utilizing billing data.

(4) Following the last reporting element (column b) the following summary entries are required in separate lines:

(a) Subcontractor G&A - Enter in column f the G&A costs for each of the subcontractors who report to the prime contractor. The prime contractor will enter the appropriate figures on his report from the subcontractor's report and submit the subcontractor's report to the government with his own. For subcontractors reporting directly to the government, no entry is required since such costs are included in the data reported under each reporting element.

(b) Subcontractor Profit or Fee - Enter in column f the Profit or Fee for each of the subcontractors who report directly to the prime contractor. The prime contractor will enter the appropriate figures from the subcontractor's report and submit the original of the subcontractor's report to the government with his own. For subcontractors reporting directly to the government, no entry is required since such costs are included in the data reported under each reporting element.

(c) The G&A and Profit or Fee entries will cover all work performed by the subcontractor and not relate to any specific reporting element.

(d) Total Cost (less reporting contractor's G&A and Profit or Fee) - Enter the total cost in column f.

(e) Reporting Contractor's G&A - Enter in column f the reporting contractor's G&A costs.

(f) Reporting Contractor's Profit or Fee - Enter in column f the reporting contractor's Profit or Fee.

(g) Total - In column f enter the sum of the following line entries:

(i) Total Cost (less Reporting Contractor's G&A).

(ii) Reporting Contractor's G&A.

(iii) Reporting Contractor's Profit or Fee.

(5) Page ____ of ____

Enter the page number and total number of pages of the Cost Data Summary Report being submitted.   **A-18**

FIGURE 3-1. COST DATA SUMMARY REPORT

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APPENDIX B

CPEP WORKSHEETS

COST / HOUR EVALUATION WORKSHEET

PROJECT:	WBS NO:		CI	NO:
OFFEROR:	WBS TITLE:			

RATE CODE	CATEGORY	ESTIMATES				
		OFFEROR	*1	GOVERNMENT	*2	% ±
1010	⊠ MATERIAL ($)					
1020	⊠ SUBCONTRACT COSTS ($)					
1050	⊠ FIELD SUPPORT LABOR (HOURS)					
1..0	⊠ ENGINEERING LABOR (HOURS)					
1120	⊠ OTHER DIRECT/MANUFACTURING LABOR (HOURS)					
1150	⊠ OTHER COSTS ($):					

*1 OFFEROR REALISM CODE *2 EVALUATOR CONFIDENCE CODE	SIGNATURE/DATE:
L = LOW M = MEDIUM H = HIGH	

FORMAT A

1.0 DESCRIPTION OF WBS ITEM:

2.0 ANALYSIS/RATIONALE FOR GOVERNMENT ESTIMATE:

EVALUATION WORKSHEET LEGEND

PROJECT: CATEGORY:

OFFEROR: UNIT OF MEASURE: ☐ HOURS
                                                            ☐ DOLLARS
                                                            ☐ FACTOR

SUB CATEGORY	RATE CODE	COMMENT

Note: Signature:
                                            Date:

VALUE WORKSHEET

PROJECT: CATEGORY:

OFFEROR: WBS:

RATE CODE	VALUE					
	RUN 1	RUN 2	RUN 3	RUN 4	RUN 5	RUN 6
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
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24						
25						
26						
27						
28						
29						
Computer date time						

APPENDIX C

COST REPORTING REQUIREMENTS (CRR)

DATA ITEM DESCRIPTION	2. IDENTIFICATION NO(S).	
	AGENCY	NUMBER

1. TITLE	
C TRACT PRICING REPORT	PM TRADE EM
	UDI-F-25796 (MOD 1)

3. DESCRIPTION/PURPOSE

The purpose of this report is to provide a cost estimate structure by which the offeror submits to the Government a summary of incurred and estimated costs (and attached supporting information) suitable for detailed review and analysis.

4. APPROVAL DATE

8 October 1982

5. OFFICE OF PRIMARY RESPONSIBILITY

PM TRADE

6. DDC REQUIRED

8. APPROVAL LIMITATION

7. APPLICATION/INTERRELATIONSHIP

As part of the specific information required by this report the offeror must submit cost and pricing data which is verifiable and factual. In addition, he must submit any information reasonably required to explain the offeror's estimating process, including:

a. The judgmental factor applied and the mathematical or other methods used in the estimate including those used in projecting from known data, and

b. The contingencies used by the offeror in his proposed price.

9. REFERENCES (Mandatory as cited in block 10)

DAR 3-408
DAR 3-800
DAR 15-205

MCSL NUMBER(S)

10. PREPARATION INSTRUCTIONS

a. The contractor shall provide the Contract Pricing Report in the detail and structure described in the attachment, "Cost Reporting Requirements (CRR)", to this Data Item Description. The contractors may utilize any reporting format as long as the required information and data is provided to the Government.

b. For production estimates DI-F-6006 (MOD) shall be followed.

c. The Contract WBS extended by the contractor shall form the basis of all data reporting.

d. As the Cost Pricing Report is updated, the Contract WBS and dictionary per DI-A-3023/M-126-1 (MOD 1), "Contract WBS", shall be updated.

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ATTACHMENT 1

COST REPORTING REQUIREMENTS (CRR)

1.0 GENERAL

The offeror shall prepare the cost proposal in accordance with the require-
ments of this document. The proposed cost shall be developed based on the Contract
Work Breakdown Structure (CWBS) set forth in this Request For Proposal (RFP).

2.0 METHODOLOGY AND RATIONALE

a. Cost estimates fully supported by data which are sufficient to establish
the reasonableness, realism, and completness of the proposed cost/price shall be
submitted for each contract WBS item. The proposals shall include a complete
description of the philosophy and methodology used in developing cost estimates.
It has been standard practice for contractors to include "boilerplate" statements
extracted from the company's estimating policy. This is unacceptable. The proposal
shall explain what specifically was used for each estimate. Supporting detail
provided, for example, should include cost estimating relationships and cost factors
that have been used, as well as assumptions concerned with economics, technology,
schedules, plant volume, learning curves, allocations, comparisons to similar
products, etc. The contractor, in the preparation of this estimate, shall insure
that all WBS items are covered by an identifiable statement of work document and/or
paragraphs thereof. When necessary, the contractor shall develop a substatement
of work document to insure that cost estimates for discrete items (lowest level CWBS)
can be readily separated from the remainder of the contractor proposal documentation.
This estimating methodology and rationale shall be provided for all elements of
the proposal.

b. "Estimating Methodology" means the manner or method in which a cost is
estimated, its factual base, and assumptions incorporated in the estimate. This
information is cost and pricing data within the meaning of the Truth in Negotia-
tions Act and is included in that information which the offeror must certify.

c. "Estimating Rationale" means that process of reasoning and judgement, reduced
to narrative in the proposal, which would lead a reasonable man to conclude that
the estimate was equitable and realistic.

d. Offerors shall not presume that certain estimating methodologies are
inherently reasonable and need not be supported by rationale.
The only cost which need not be supported
by rationale are vendor costs where the amount is established under adequate price
competition or by catalog prices where the item is sold to the general public in

sufficient quantities in a competitive market. Failure to provide supporting
rationale for all other elements of the cost proposal is unacceptable.

e. Historical costs typically include unrealized contingencies, obsolete
and/or inappropriate methods and technology, and structural and managerial
inefficiencies. Use of historical or comparison costs without supporting
rationale particuarly is unacceptable.

3.0 <u>CWBS DICTIONARY</u>

a. The offeror shall extend the Government Contract Work Breakdown Structure
and provide a CWBS dictionary.

b. The CWBS extension and the CWBS dictionary shall be prepared in accordance
with DI-A-3023/M-126-1 (MOD 1) "Contract Work Breakdown Structure (attachment I)".

4.0 <u>DIRECT LABOR/COST DATA</u>

The offeror shall provide the following information and data:

a. Labor Hours and Dollars

The offer shall , for <u>each</u> WBS element, at <u>each</u> level, prepare a spread sheet
showing the following:

(1) Labor hours by functional labor category.

(2) Extended labor dollar cost by functional labor category.

(3) Labor hours and dollars by functional labor category and by time periods
used as the basis of the proposed cost (months, quarters, or fiscal years).

(4) Total labor hours and dollars by functional labor category and by time
periods (months, quarters, or fiscal years).

(5) Total labor hours and dollars by functional labor category and time
periods.

(6) The time periods selected by the offeror for cost/hour spreading shall
reflect the same approach used to develop the proposed cost.

(7) The functional labor categories provided shall be the lowest level
of functional labor aggregation which is used by the offeror in preparing the
proposed cost.

(8) The Contractor shall, for each labor category by WBS element, identify
estimating <u>methodology</u> and <u>rationale</u> and show all calculations. All factors used
shall be identified. The tasks performed by each labor category shall be described
for each WBS element at the lowest level. The tasks shall be segregated as non-
recurring or recurring. Define the non-recurring and recurring categories and their
contents.

b.   Burden Rates and Dollars

(1)   If more than one overhead rate applies to labor in your accounting system, such as factory overhead, the labor categories shall be appropriately segregated.

(2)   Labor rates applicable to each category by time period (month, quarter, or fiscal year).

(3)   The applicable overhead rate(s) and dollars shall be shown by time period and total.

(4)   Material handling burden, G&A, FCCM, etcetera, shall be applied to their appropriate base. Rates and dollars will be shown by time period and total. Each base shall be identified.

c.   Subcontracts, Purchased Parts, Raw Materials, and Other Costs.

(1)   The costs shall be segregated and shown in the time period in which the cost will be incurred.

(2)   These costs shall be segregated and provided for each WBS element, at each level.

(3)   For production contracts these costs shall be segregated and the non-recurring and recurring costs identified.

(4)   The offeror shall provide the identification, estimating rationale and methodology, and detailed backup for all direct costs other than labor.

(5)   The offeror shall provide a bill of materials prepared on DD Forms 346 and 347 and in accordance with the instructions on the reverse of the forms. A computer prepared list in the format of the DD Forms is acceptable. However, the prepared list shall be organized by WBS element.

d.   All direct labor hours and cost data shall be presented in a manner which will allow the Government to readily extract the information according to the categories established in Format A, Cost/Hour   Evaluation Worksheet. An example of complete worksheet is provided for reference. The offeror should provide any distinguishing information or detail which would assist the Government in extracting information from the cost proposal to complete Cost/Hour   Evaluation Worksheet.

5.0 SUBCONTRACTOR COST AND PRICING DATA

The Contractor shall, in accordance with the criteria of paragraph 3-807.4 of the Defense Acquisition Regulation, obtain cost or pricing data from his subcontractors.

a.   For each subcontractor (within the crieteria of DAR 3-807.4) the Contractor will submit that subcontractor's executed DD633 and (at a minimum)

the direct labor and cost data as required of the prime in this CPR, plus methodology and rationale.

b. Technical/Cost (best value) competition is not "adequate price competition" within the meaning of paragraph 3-807 of the Defense Acquisition Regulation. (See DAR 3-807.7(a)).

6.0 TRAVEL COSTS

The Contractor will set forth his travel costs in detail, (number of men, number of trips, locations, costs, etc.) together with his estimating methodology and rationale. He shall identify, and supply upon further request, his published corporate travel policy document.

7.0 FOREIGN TAXES, CUSTOMS, DUTIES, ROYALTIES, EXCISE TAXES, AND OTHER SPECIAL COSTS

The Contractor shall identify all costs which the terms of this RFP required to be separately reported and/or that the Contractor is required to certify the extent to which they are or are not included in the proposed cost. If none, for any given category, so state.

8.0 OTHER DIRECT COSTS

The Contractor shall identify and include here any costs not included elsewhere that will be charged as a direct cost to the contract. They will be broken down in detail and the estimating methodology and rationale provided.

9.0 TRANSPORTATION COSTS

The Contractor shall set forth the transportaion costs for shipment of the equipment from the Contractor's plant to the destination points specified in Section E, Deliveries of Performance of the RFP.

10.0 OVERHEAD, BURDEN RATES, PROFIT, AND RISK

a. The Contractor shall document all costs that will be allocated to the contract on an indirect basis.

b. Offeror shall, for each account in his accounting system (examples: engineering, overhead, manufacturing overhead, material handling overhead, G&A expense, etc.) reflect all costs that will be allocated for each account and specifically identify, in detail, the cost bases (by labor, material, etc. categories) to which each account is applicable. Identify the contents (pools) within each account.

c. Offeror shall submit DD Form 1861 and all backup thereto to reflect Facilities Capitol Cost of Money.

11.0 INFLATION RATE SUMMARY AND EXPLANATION

A table shall be provided showing all inflation rates used to prepare the cost proposal broken out by time periods and functional categories (at least material, subcontracts, labor, and other costs). The value of all weighted inflation rates used shall be provided. The basis for all area used shall be explained.

12.0 GFE COST DATA

The offeror's cost proposals shall identify the GFE being proposed. To insure that the government evaluates all offerors on a comparable basis the following data is required from both the prime offeror and subcontractor:

a. A list of all GFE (including quantities) proposed by WBS.

b. For each government furnished item identified in response to the preceding paragraph the offeror shall briefly describe the item and provide a CFE cost for providing the equivalent item, including the offeror's equivalent associated costs. The cost of each item of GFE shall be provided from current government stock list documentation.

c. The estimated fair rental value for the use of government property shall be furnished in summary (identifying both facility and other property dollars) with the cost documentation.

d. It is necessary that the Government be able to determine total program cost. Therefore, the offeror shall also address all associated costs such as test support, use of special test Government facilities, etc. The offeror should provide cost differences, quoted on each item (including quantities required) to assist the Government in determining the economics of providing the items as GFE in lieu of CFE.

13.0 PROJECT MASTER SCHEDULE MASTER PHASING CHART

Provide a master schedule chart depicting the milestones for each WBS element that controls the time phasing of the total project to meet the project schedule. This chart shall include major contract milestone requirements, especially contract award, post award conference, project planning review, computer program system management guidance conference, preliminary design reviews, critical design reviews, release of purchase orders for critical items with long lead times, critical functional computer program modules completion, DT&E test procedures delivery complete, real-time operation complete, and ready for government tests, tooling, CFE/GFE deliveries.

Identify critical interfaces between functional department schedules which support the master schedule, review the required contract milestone, comment specifically on the reasonableness of each milestone, and an ability to meet each milestone.

14.0 Cost Data Summary Report

For each contract the offeror shall prepare the Cost Data Summary Report (DD Form 1921) in accordance with DI-F-6006 MOD (attachment 2). In lieu of the contract line item and reporting elements (columns a and b), the WBS element number and name shall be provided for all WBS elements at each level to at least level 3. The proposed non-recurring, recurring and total costs shall be provided for each WBS element (columns d, e, and f). Omit columns g, h, i, and j. A separate DD 1921 shall be prepared for each subcontractor whose services require non-recurring effort. Provide definitions and explanations of the contents of both the non-recurring and recurring categories.

15.0 Manufacturing Data

Any manufacturing rationale in data form shall be explained. Definitions shall be provided for each variable. A clear explanation of the manufacturing estimate and calculations shall be provided.

16.0 Technical Data and Information

Prepare a list of the CDRL items and the price of each.

17.0 SUMMARY OF COST PROPOSAL INFORMATION REQUIRED

a. Material: $ by category by WBS by time spread.

b. Subcontractor: $ by category by WBS by time spread.

c. Field Support Labor: $ and hours by functional category by WBS by time spread.

d. Engineering Labor: $ and hours by functional category by WBS by time spread.

e. Manufacturing Labor: $ and hours by functional category by WBS by time spread.

f. Other Costs: $ by category by WBS by time spread.

g. Overhead: $, basis and rated by time spread.

h. Burden: $, basis and rates by time spread.

i. Labor Rates: $ by functional labor category by time spread.

j. Travel: Number of people each trip, number of trips, locations, type of labor, costs (per diem/transporation) and time spread.

k. Transportation: Identify costs and describe.

l. Other Direct Costs: Identify costs and describe.

m. Special Costs: Identify costs and describe.

n. Contract WBS: CWBS extension and CWBS dictionary.

o. Inflation Factors: Inflation rates by functional category and time spread.

p. Methodology and Rationale: Basis of bid, calculations, factors, tasks by WBS and non-recurring vs. recurring.

q. GFE: Separately identify and cost by WBS.

r. Each Contract: Non-recurring efforts. $ and hours segregated from recurring efforts, $ and hours.

s. Subcontractor Information: Same above requirements as the Prime Contractor.

COST / HOUR EVALUATION WORKSHEET

PROJECT: EXAMPLE	WBS NO: 1.1.1.4		CI	NO:
OFFEROR: XYZ Corp.	WBS TITLE: Cockpit Sturcture - Panels (Example Only)			

RATE CODE	CATEGORY	OFFEROR	*1	GOVERNMENT	*2	% +/-
1010	MATERIAL ($)					
1	101 Purchased Parts	5000				
2	102 Other Manuf. Mat.	100				
3	103 Other Engr. Mat.	50				
1020	SUBCONTRACT COSTS ($)					
1	A. B. Duke	3000				
2	F. C. D.	25000				
1050	FIELD SUPPORT LABOR (HOURS)					
1	203 F/S	200				
1090	ENGINEERING LABOR (HOURS)					
1	305 Systems Engineer	100				
2	307 Visual Engineer	150				
3	308 Proj. Sys. Engr.	30				
4	310 Mech. Design	80				
5	312 Clerical	50				
1120	OTHER DIRECT/MANUFACTURING LABOR (HOURS)					
1	401 Fabrication	25				
2	402 Subassembly	15				
3	403 Final Assembly	10				
1150	OTHER COSTS ($):					
1	206 Travel & Subsistence	500				
2	207 Shipping	1000				
3	208 Computer	75				

SAMPLE

*1 OFFEROR REALISM CODE *2 EVALUATOR CONFIDENCE CODE   SIGNATURE/DATE:

L = LOW   M = MEDIUM   H = HIGH

FORMAT A

DATA ITEM DESCRIPTION	2. IDENTIFICATION NO(S).	
	AGENCY	NUMBER

1. TITLE	
Contract Work Breakdown Structure	DI-A-3023/ M-126-1 (MOD 1)

3. DESCRIPTION/PURPOSE

The contract work breakdown structure (contract WBS) establishes the framework for reporting program cost schedule, and technical performance. It provides a basis for uniform planning and reporting status and program visibility and assignment of responsibilities.

4. APPROVAL DATE

5. OFFICE OF PRIMARY RESPONSIBILITY

6. DDC REQUIRED

7. APPLICATION/INTERRELATIONSHIP

Used on programs where either cost/schedule control system criteria, in accordance with DOD Instruction 7000.2, or cost/schedule planning and control system requirements are to be applied.

8. APPROVAL LIMITATION

9. REFERENCES (Mandatory as cited in block 10)

MIL-STD-881

MCSL NUMBER(S)

10. PREPARATION INSTRUCTIONS

The contract WBS will be reflected in a report which consists of two parts, Part I is an Index, and part II will be the Dictionary.

    a. <u>Part I, Index</u>. The contract WBS Index will contain the data elements as shown in the attached format. Instructions are as follows:

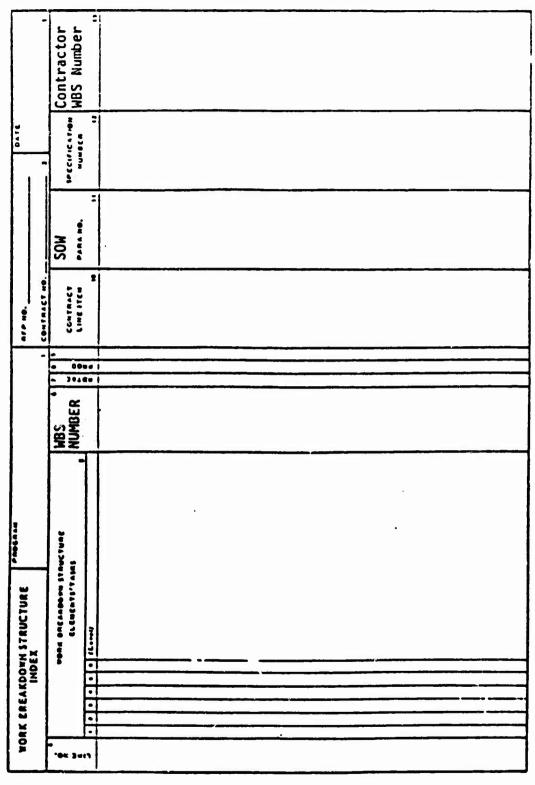   <u>Header</u> - Self explanatory.

    <u>Columns</u>:

    4 - <u>Line No</u>. Enter line item number entry.

    5 - Work Breakdown Structure Elements/Tasks. Enter the title of the WBS element and indentured to reflect the level. Level 1 is the total contract. Levels 2, 3, etc., are successively lower levels of the program.

    6 - <u>WBS Number</u>. Enter the WBS number as provided by the Government and extended by the contractor.

    7 & 8 - <u>RDT&E Prod</u>. Place a checkmark in the appropriate columns to show whether the WBS element is associated with the RDT&E phase or the production phase, or both.

<div align="center">

ATTACHMENT 1

</div>

9 - (Untitled.) This column will be used for other program phases such as a rormal component improvement program.

10 - Contract Line Item. Enter the number of the contract line item which is associated with the WBS element.

11 - Para No. Enter the applicable paragraph numbers from the Statement of Work (SOW) which are associated with the WBS element.

12 - Specification Number. Where applicable, enter the number of the specification wnich covers the WBS element. If the specification is associated with more than one WBS element, indicate which paragraphs are applicable to the WBS element.

13 - Contractor WBS Code. Enter the WBS coding devised by the contractor when different from column 6 (WBS Number).

b. Part II, WBS Dictionary and Contract Requirements. The Dictionary/ Contract Requirements will describe the technical,physical, and cost content of every WBS element. It will describe what the element is and efforts associated with the WBS element (such as design, development, and manufacturing). It will also describe the physical configuration and components as well as distinguishing performance parameters of the hardware and software. For the WBS elements speci- fied elsewhere for cost reporting, the WBS Dictionary definitions will also include the exact narrative of the directly associated work statement paragraphs. General arrangement of the Dictionary will be as displayed on the attached Part II format:

(1) The elements will be in the same order as the contract WBS index.

(2) Following the description of the element will be a listing of the next level of WBS element.

Page 3 of 4 pages

CONTRACT WORK BREAKDOWN STRUCTURE
PART II-WBS DICTIONARY AND CONTRACT REQUIREMENTS

ITEM NO.

PROGRAM TITLE   WBS ELEMENT TITLE AND NUMBER

DATE

ELEMENT TASK DESCRIPTION

TECHNICAL CONTENT

PHYSICAL DESCRIPTION AND PERFORMANCE

SPECIFICATION TITLE

SPECIFICATION NUMBER

COST CONTENT

SYSTEM CONTRACTOR

ASSOCIATE/SUB/SUB SUBCONTRACTOR

APPLICABLE WORK STATEMENT NARRATIVE

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DI-A-3023/M-126-1 (MOD 1) (Continued)
Preparation Instructions (Continued)

DATA ITEM DESCRIPTION	2.	IDENTIFICATION NO(S).	
		AGENCY	NUMBER

1. TITLE

Cost Data Summary Report (DD Form 1921)

DOD | DI-F-6006(MOD)

3. DESCRIPTION/PURPOSE

To collect costs for all work breakdown structure (WBS) elements for providing cost backup for funds estimates. The report is used in preparing estimates in support of the Five Year Defense Program, developing independent government and parametric cost estimates in support of cost and price analyses and contract negotiations, evaluating contractors' proposals and responding to requirements for summary information to higher levels of management. It segregates actual and estimated costs into their recurring and non-recurring components.

4. APPROVAL DATE

November 1973

5. OFFICE OF PRIMARY RESPONSIBILITY

OASD(C)

6. DDC REQUIRED

7. APPLICATION/INTERRELATIONSHIP

a. The Cost Data Summary Report is applicable to major systems contracts for some large advanced development prototype efforts, full-scale development, and production with a total RDT&E estimate of over $50 million or cumulative production estimates of over $200 million or as specified in Chapter 1 of the Contractor Cost Data Reporting (CCDR) system.

b. This report is related to the Functional Cost-Hour Report, DID DI-F-6007; the Progress Curve Report, DID DI-F-6008; and the Plant-Wide Data Report, DID DI-F-6009.

8. APPROVAL LIMITATION

9. REFERENCES (Mandatory as cited in Block 10)

OMB 22-R-0322
DODI 7000.11
Contractor Cost Data Reporting (CCDR) system, NAVMT P 5241, AMCP 715-8, AFLCP/AFSCP 800-15.
Military Standard 881.

MCSL NUMBER(S)

AMSL No. 71556.

10. PREPARATION INSTRUCTIONS

a. The contractor shall prepare deliverable reports (DD Form 1921) in accordance with the instructions contained herein.

b. The contractor may submit hard copy printouts from his punched cards or magnetic tapes, in lieu of the OMB-approved DD Form 1921, Cost Data Summary Report, provided that the printouts are identical in content and structure with the DD Form 1921 (Chapter 3, Contractor Cost Data Reporting (CCDR) system).

c. DD Form 1921 - Cost Data Summary Report. The Cost Data Summary Report summarizes all activities included in the contract and aggregates costs against the reporting elements selected from the work breakdown structures defined in MIL-STD-881 and/or specified in the contract. The report shall provide information to at least level 3 of the WBS.

   (1) The following instructions apply to DD Form 1921, the Cost Data Summary Report. Leave items 4, 6, 7, 8, and 9 blank, unless otherwise specified by the DOD component. Also omit columns g, h, i, and j.

      (a) Item 1 Program

         Identify the system designator or the type, model, and series of the prime item or items being purchased under contract or being proposed for contract. If the contract or proposal is for or includes services (research, flight tests, etc.), specify the work to be performed. In the case of associate contractors and subcontractors reporting separately, identify the end item being purchased on the contract and the program for which it is being procured (e.g., aft body section of the F-X, wind

tunnel tests for the B-X, launch equipment for missile X).

(b) Item 2 Contract RFP Program Estimate - Check the RFP box.

(c) Item 3 RDT&E Procurement - Check the appropriate box.

(d) Item 5 Report As Of - Enter the reporting date.

(e) Item 10 Prime/Associate   Subcontractor

Check the Prime/Associate box if the contractor reporting is the prime or associate contractor for the work to be performed on contract or being proposed and enter the name, division (if applicable), and address of the reporting contractor. Check the subcontractor box if the report is being submitted by a subcontractor and enter the name, division (if applicable) and address of the reporting subcontractor.

(f) Item 11 Name of Customer

If the report is being submitted by a subcontractor enter the name of the customer for whcm the work on contract is being performed. If the report is being submitted by a prime or associate contractor, leave item blank.

(g) Column a Contract Line Item (Work Breakdown Structure Element)

Enter the WBS element number as specified in the contract which relates to the reporting element in column b.

(h) Column b Reporting Elements (WBS Name)

Enter the reporting elements (WBS Name) specified in the contract or by the DOD component for which cost data is to be reported.

(i) Column c Element Code

Not applicable.

(j) Columns d, e, and f To Date - Cost Incurred - Nonrecurring, Recurring, and Total

(1) Costs of all reporting elements reported are to be segregated into nonrecurring and recurring classifications. For some elements these costs are clearly differentiated. For example, all systems or component tests (other than quality control tests, acceptance tests, etc.) mock-ups and construction of facilities are nonrecurring, regardless of whether these activities continue through the life of the program. Other elements are not so easily differentiated. Nevertheless, every attempt will be made to achieve a consistent and reasonable identification of these costs.

(2) General principles to be applied in the determination of nonrecurring and recurring costs apply to all research and development and production programs, as well as to any major modification during a program.

(a) Nonrecurring Costs - Nonrecurring costs include costs of the following:

(1) Preliminary design effort encompassing the translation of weapon systems concepts and requirements into specifications for new systems as well as for major modification of existing systems.

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(2) Design engineering that entails the specifications and preparation of the original set of detailed drawings for new systems as well as for major modifications of existing systems.

(3) With respect to (a) and (b), above, it is preferable to identify the point of segregation between nonrecurring and recurring engineering costs as a specific event or point in time. Ideally, the event used would be the point at which "design freeze" takes place as a result of a formal test or inspection, and after which formal engineering change proposal (ECP)procedures must be followed to change design. If no reasonable event can be specified for this purpose, then all engineering cost incurred up to the date of 90 percent engineering drawing release may be used. The precise method used for segregating recurring and nonrecurring engineering costs will be identified and explained in the "Remarks" space.

(4) Systems test and evaluation regardless of when it occurs in the life of a program.

(5) All partially completed reporting elements manufactured for tests (e.g., static, fatigue, dummy missiles, ground integration millile components, inert missiles).

(6) Costs of all tooling, manufacturing, and procurement effort specifically incurred in performing development or tests, except for the manufacture of complete units during the development program.

(7) The initial set of tools and all duplicate tools produced to permit the attainment of a specific rate of production for a program.

(8) Training of service instructor personnel.

(9) Initial preparation of technical data and manuals.

(10) Start-up costs such as plant lay-out, operations planning, plant rearrangement, tooling design and planning, the original industrial engineering efforts to perfect a manufacturing technique.

(b) Recurring Costs-Recurring costs include the following:

(1) Engineering required for redesign, modifications, reliability, maintainability, associated evaluation and liaison.

(2) Complete reporting elements produced either for test (e.g., R&D flight test, operational evaluation flight test, quality assurance, design evaluation, etc.) or for operational use.

(3) Tool maintenance, modification, rework, and replacement.

(4) Training all Service personnel to operate and maintain equipment.

(5) Reproduction and updating of technical data and manuals.

(3) For each reporting element in Column b, the reporting contractor will show an entry in separate lines for:

(a) Total costs (less G&A) from the inception of the contract excluding payments of those subcontractors separately reported on Cost Data Summary Reports.

This requires that the prime contractor deduct from the total cost of each reporting element all amounts paid to each subcontractor reporting separately. The resultant figure reported by the prime contractor will be the prime contractor's costs plus the payments to all subcontractors not separately reporting less payments to separately reporting subcontractors. Cost should be reported without regard to ceilings established for incentive contracts, or the price on firm fixed price contracts.

(b) The cost for that portion of a reporting element being developed or manufactured by a separate reporting subcontractor. If a subcontractor has been designated to prepare a separate Cost Data Summary Report to the prime contractor, the prime contractor will insert in columns d, e, and f from the subcontractor's Cost Data Summary Report the costs for the selected reporting elements. If the subcontractor reports directly to the Department of Defense, the prime contractor will enter the appropriate price in column f for the subcontract utilizing billing data.

(4) Following the last reporting element (column b) the following summary entries are required in separate lines:

(a) Subcontractor G&A - Enter in column f the G&A costs for each of the subcontractors who report to the prime contractor. The prime contractor will enter the appropriate figures on his report from the subcontractor's report and submit the subcontractor's report to the government with his own. For subcontractors reporting directly to the government, no entry is required since such costs are included in the data reported under each reporting element.

(b) Subcontractor Profit or Fee - Enter in column f the Profit or Fee for each of the subcontractors who report directly to the prime contractor. The prime contractor will enter the appropriate figures from the subcontractor's report and submit the original of the subcontractor's report to the government with his own. For subcontractors reporting directly to the government, no entry is required since such costs are included in the data reported under each reporting element.

(c) The G&A and Profit or Fee entries will cover all work performed by the subcontractor and not relate to any specific reporting element.

(d) Total Cost (less reporting contractor's G&A and Profit or Fee) - Enter the total cost in column f.

(e) Reporting Contractor's G&A - Enter in column f the reporting contractor's G&A costs.

(f) Reporting Contractor's Profit or Fee - Enter in column f the reporting contractor's Profit or Fee.

(g) Total - In column f enter the sum of the following line entries:

   (i)   Total Cost (less Reporting Contractor's G&A).

   (ii) Reporting Contractor's G&A.

   (iii) Reporting Contractor's Profit or Fee.

(5) Page ____ of ____

Enter the page number and total number of pages of the Cost Data Summary Report being submitted.

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FIGURE 3-1. COST DATA SUMMARY REPORT